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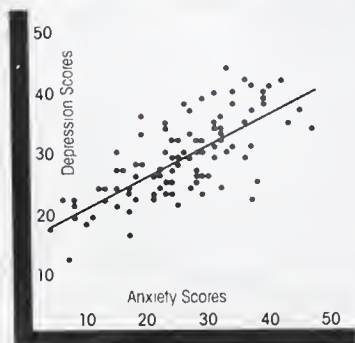
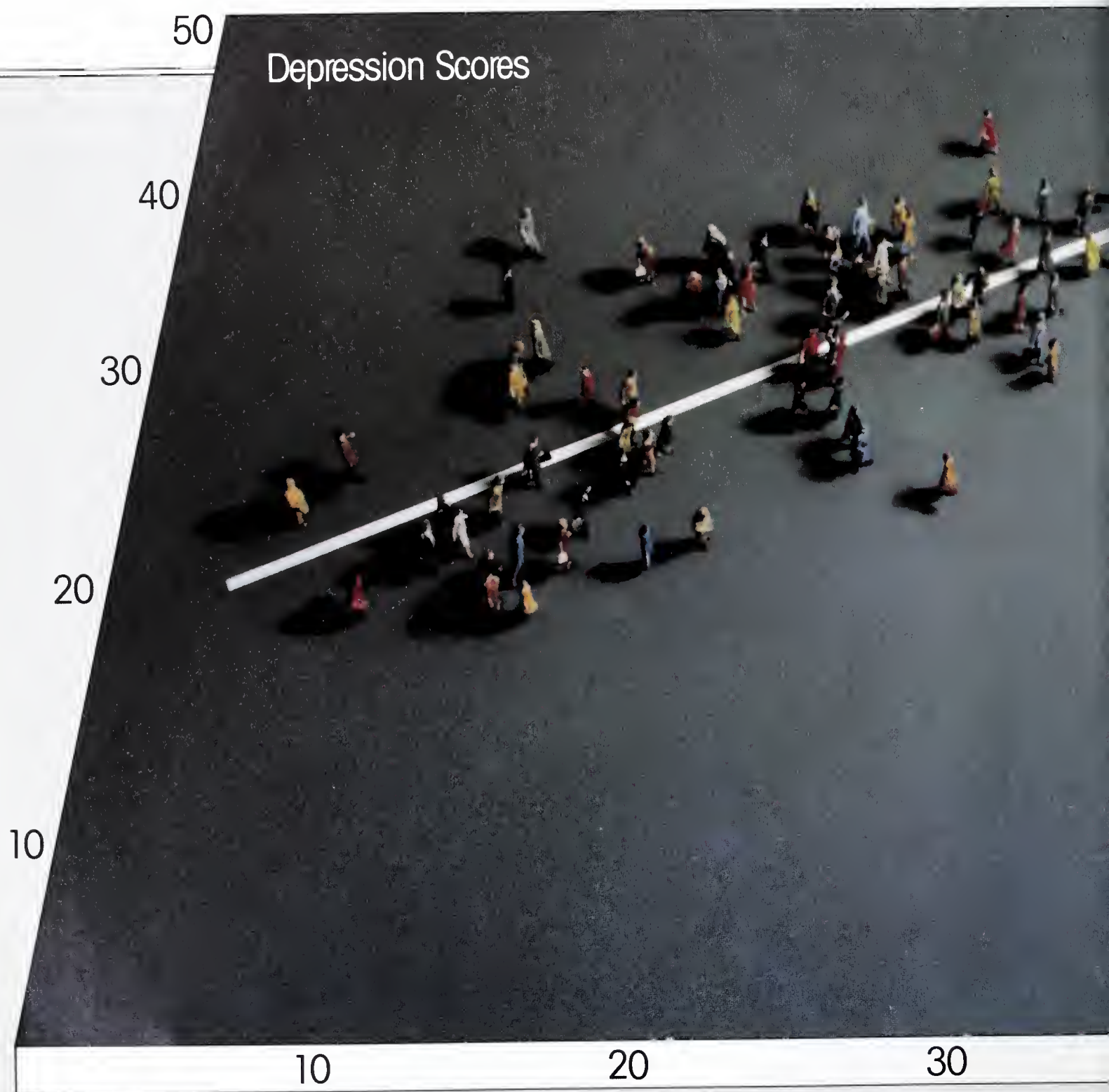
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³Adopted from Claghorn, J. The anxiety-depression syndrome. *Psychosomatics* 11:438-441, Sept-Oct 1970.

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Arkansas

MEDICAL SOCIETY

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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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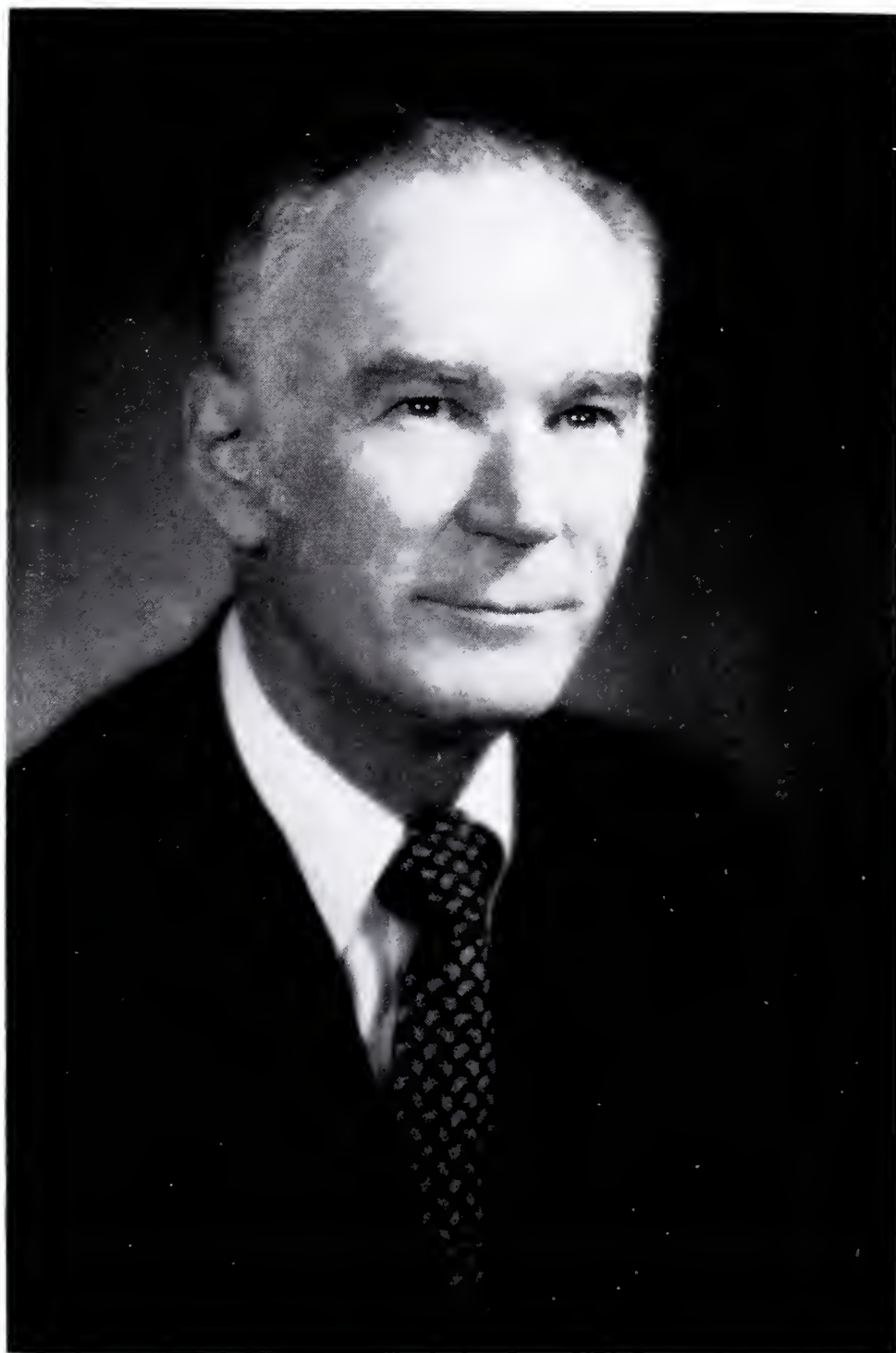
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President
Arkansas Medical Society
1981-1982

PROCEEDINGS

105th Annual Session

ARKANSAS MEDICAL SOCIETY

Little Rock

April 26-29, 1981

**First Meeting
HOUSE OF DELEGATES**

The first meeting of the House of Delegates of the Arkansas Medical Society during the 1981 convention was called to order at 1:30 p.m. by Speaker Amail Chudy. Invocation was by W. Payton Kolb.

The executive vice president, C. C. Long, called the roll of delegates. The following delegates, officers, and members seated as delegates by action of the House were present:

ARKANSAS, Gerald Guyer; BAXTER, John F. Guenther; BENTON, Richard Pearson; BOONE, Mahlon O. Maris; BRADLEY, W. C. Whaley; CHICOT, Tom Tvedten; CLARK, N. R. Ritter; COLUMBIA, Joe Rushton; CRAIG-HEAD-POINSETT, F. M. Wilson, Joe Stallings and James M. Robinette; CRAWFORD, Millard Edds; CRITTENDEN, Milton Deneke; DESHA, Howard Harris; DREW, Paul A. Wallick; FAULKNER, Robert Benafield; FRANKLIN, David L. Gibbons; GARLAND, E. K. Clardy, Ronald Bracken, Gaither Johnston and Richard Gardial; GREENE-CLAY, J. Larry Lawson and Darrell Bonner; HOT SPRING, Robert H. White; INDEPENDENCE, Jim Lytle; JACKSON, Joel Cook; JEFFERSON, Banks Blackwell, Lloyd G. Langston, George V. Roberson and H. L. Green; JOHNSON, Donald H. Pennington; LAWRENCE, Ralph Joseph; LEE, Dwight W. Gray; MILLER, F. E. Joyce; MISSISSIPPI, R. Scott Fergus; MONROE, N. C. David, Jr.; NEVADA, H. Blake Crow; OUA-CHITA, Robert Nunnally; PHILLIPS, Robert D. Miller; POLK, David Fried; POPE, James M. Kolb and Frank Lawrence; PULASKI, Edgar

Easley, Kelsy Caplinger, John McCollough Smith, Gordon Oates, Ruth Steinkamp, Harold Purdy, Art Squire, Warren Douglas, Frank Morgan, Warren Boop, Paul Cornell, Charles Crocker, Charles Logan, Robert Shannon, Harold Hutson, Mayne Parker, Guy Farris, Raymond Biondo, Ronald Williams, John Pike, Thomas Bruce, William Morton and David Barclay; RANDOLPH, Albert L. Baltz; SALINE, John E. Frandolig; SEBASTIAN, Carl Williams, Annette Landrum, Sam Koenig, Carl Wilson, Sam Landrum, A. C. Bradford, McDonald Poe and Morton Wilson; SEVIER, George W. Dickinson; UNION, Willis M. Stevens, Jr.; VAN BUREN, John A. Hall; WASHINGTON, John W. Vinzant, Brian Runnels, E. Mitchell Singleton and Stanley Applegate; WHITE, R. D. Raspberry; YELL, R. P. Edmondson; COUNCILORS, Merrill J. Osborne, Asa A. Crow, John E. Bell, John Hestir, L. J. P. Bell, Raymond Irwin, John P. Burge, George Warren, Donald L. Duncan, C. Lynn Harris, W. Ray Jouett, William N. Jones, Morris Henry, Rhys A. Williams, Charles F. Wilkins and Ken Lilly; PRESIDENT, Kemal Kutait; PRESIDENT-ELECT, Purcell Smith, Jr.; FIRST VICE PRESIDENT, Richard Martin; SPEAKER OF THE HOUSE, Amail Chudy; VICE SPEAKER OF THE HOUSE, Pat Phillips; SECRETARY, Elvin Shuffield; TREASURER, K. R. Duzan; PAST PRESIDENTS, Charles R. Henry, Joe Verser, C. R. Ellis, Ross Fowler, Robert Watson, Ben N. Saltzman, A. S. Koenig, Jr., W. Payton Kolb, A. E. Andrews and John P. Wood.

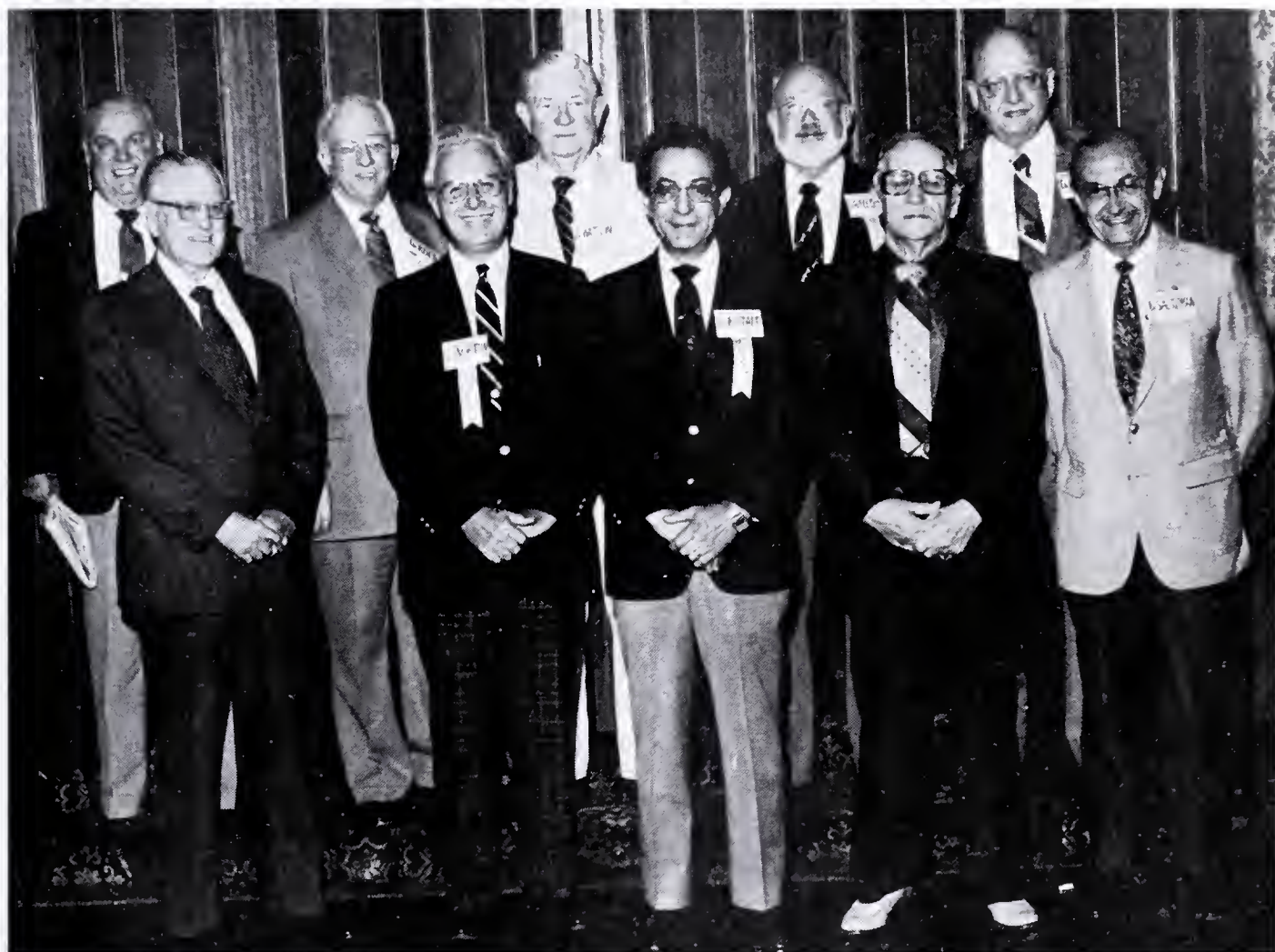
Vice Speaker Phillips introduced Mrs. Charles A. Prater of Jellico, Tennessee, the President of the Southern Medical Association Auxiliary. Mrs.

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY 1981-1982



Seated, left to right: First Vice President Frank Morgan, Chairman of the Council John P. Burge, Immediate Past President Kemal Kurait, President Purcell Smith, Jr., President-elect Morris Henry, Secretary Elvin Shuffield, Treasurer James M. Kolb, Jr., and Councilor C. R. Ellis. Standing, left to right: Councilors Lloyd Langston, Asa Crow, Ray Joutett, M. J. Osborne, Jim Lytle, Speaker Amail Chudy, Councilors George Warren, John Hestir, L. J. Pat Bell, Ken Lilly, Cal Sanders, Charles Wilkins, Lynn Harris, Rhys Williams, Richard Pearson, Second Vice President Harold Purdy, Vice Speaker Pat Phillips, and Councilor William N. Jones.

Past Presidents of the Arkansas Medical Society



Former presidents of the Society met for breakfast on Wednesday, April 29. Present were, left to right, Ross Fowler, C. R. Ellis, W. Payton Kolb, Joe Norton, Robert Watson, Kemal Kutait, Stanley Applegate, Joe Verser, George F. Wynne, and Ben N. Saltzman.

Prater spoke on behalf of the Southern Medical Association Auxiliary and the Southern Medical Association. She extended an invitation to the 75th anniversary meeting of the SMA to be held at the Marriott Hotel in New Orleans November 15-18.

Dr. Phillips then introduced the president of the Arkansas Medical Society Auxiliary, Mrs. Warren Boop. Mrs. Boop reviewed her travels as president of the Auxiliary and expressed appreciation to the Society for its financial support. She told the House of the various training programs for Auxiliary officers and projects of the organization.

Mrs. Raymond Peeples was introduced by Dr. Phillips. She expressed her pleasure to be representing the Auxiliary and in being an extension, through the Auxiliary, of the Society. She stated that the Auxiliary wanted to add just the right amount of flavor enhancer to make 1981-82 a fine year for both the Society and the Auxiliary.

Speaker Chudy called on President-elect Purcell Smith, Jr., who introduced Joseph F. Boyle of Los Angeles. Dr. Boyle holds the position of Vice Chairman of the Board of Trustees of the American Medical Association. He addressed the House as follows:

Dr. Smith, Mr. President, speakers, Dr. Long, delegates, alternates, and friends. Being placed on the program immediately following the three lovely ladies represents duty above and beyond the ordinary call, rather unusual and, I think, unfair competition.

It is really an honor and a privilege to be asked to address this session of the Arkansas Medical Society House of Delegates. I can particularly relate to a House of Delegates, having served as vice speaker and speaker of the California House and then president over a period of approximately thirteen years. An organization such as this House of Delegates is the bedrock of organized medicine and the beginning of the democratic

process which is our greatest strength. You are the greatest strength of the American Medical Association, as well.

Since the recent elections, there is a new mood in Washington and, in fact, there is a new mood in the entire country. The transition from the Carter to the Reagan Administration went reasonably smoothly. The new mood is reflected in the Federal Congress. Everything that I personally have been able to see and everything that we have heard, and that you have probably heard and read, is that the Legislature seems to have gotten the message that this country wants less big government, less regulation in their lives, and less big spending. While this has its satisfactory or salutary side, nonetheless it presents a considerable challenge to medicine as well. It increases the need that we have an effective federation of medicine — an effective house of organized medicine consisting of our constituent State societies and the American Medical Association. And *effective* the organization has been. Over the past four decades, over forty years, it has been the activities of the American Medical Association that have, in fact, preserved for us the freedom to practice in the only country in the Western World with a non-nationalized medical service. It is a system which is acknowledged by all as the best system, the finest system in the world.

It is sometimes easy for us to forget that, in 1948 at the time that the British were adopting their national health system, in the Federal Congress in the United States, we escaped that disaster by a handful of votes. It is easy to forget that during the 1950's and the 1960's there were continuing battles of the same sort. In 1966, for example, it is easily forgotten that when they were passing the first health planning bill at the same time Congress was about to pass a bill introduced known as the DeBakey bill which would really have franchised the treatment of cancer, cardiovascular diseases and stroke, under the aegis of University and then farmed out to Federally-sponsored and funded community health services and clinics. And it is easily forgotten that during this same period of time AMPAC was formed; which has today given us, twenty years later, incredible political clout in Washington. Your chairman, Ken Lilly, is to be congratulated on the participation of the Arkansas PAC in this effort. Under any circumstance, one would have

to say that this record is one of which we can be proud.

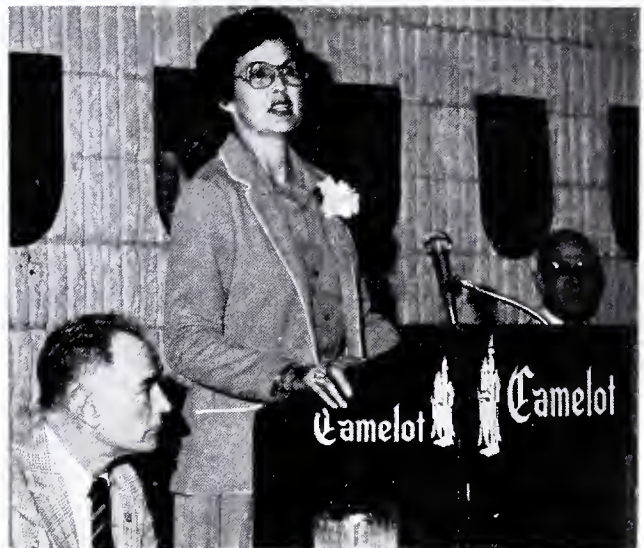
But, like everyone else, all of us ask the next question, "what are you doing now?". In the 1980's, you can say, we have had an equally successful year. We were able in Washington to prevent the adoption of pre-admission certification for hospital admission of patients, to prevent the adoption of a bill which would have put an absolute cap on the expenditures that hospitals could make regardless of what it cost them to take care of their patients or how many new patients might have been admitted, we were able to prevent the adoption of the extension of certificate of need authority to physicians' offices, we appeared before or offered testimony over 200 times before Congressional committees and Congressional hearings and had over 1,000 contacts with individual members of Congress during this time. We participated in the reorganization of methods of certification of continuing education and graduate medical education, which we believe will serve the profession well in the future.

We were very successful in a lawsuit in Chicago in which we successfully defended a suit brought by the Chiropractors which challenged our right to inform the public as to what the rights and wrongs were of very serious health issues. In winning that lawsuit, in the words of our lead attorney, Max Wildman from Chicago, the courts confirmed that the doctors have the right to call a quack a quack. A big step forward for medicine and, we believe, the health of the people of the United States.

Immediately after the last elections, we met with President-elect Reagan and began discussing the issues for the future. Medicine will now be very well represented with the highest-serving health officer of the United States, with the Department of Health and Human Services, Dr. Ed Grant, who has served as chairman of the AMA Section on Medical Schools. Now, however, although the drumbeat for the adoption of some cradle-to-grave national health system in Washington may have been muffled somewhat, there are new challenges again.

In fact, there is a new, very seductive game in town — something called pro competition. There are a number of so-called pro-competition bills introduced, but the one which has received the most ink and the most conversation has been the

SPECIAL GUESTS ADDRESS THE HOUSE OF DELEGATES



Joseph F. Boyle of Los Angeles, Vice Chairman of the Board of Trustees of the American Medical Association; Mrs. Harry Dvorsky, San Leandro, California, President-elect of the American Medical Association Auxiliary; Mrs. Warren Boop, President of the Arkansas Medical Society Auxiliary, and Mrs. Raymond Peeples, President-elect of the Arkansas Medical Society Auxiliary.

PRESIDENT'S ADDRESS



Kemal Kutait of Fort Smith makes his President's Address to the House of Delegates on Sunday, April 26, 1981.

AMA-ERF GRANT



Thomas A. Bruce, Dean of the University of Arkansas College of Medicine, expresses thanks for a \$22,000 grant from the American Medical Association Education and Research Foundation.

MORRISS M. HENRY NAMED PRESIDENT-ELECT



Washington County Delegates E. Mitchell Singleton and John W. Vinzant escort Morriss M. Henry of Fayetteville to the podium after the House elected Dr. Henry to the position of president-elect of the Society.

one introduced by Congressman Gephardt in conjunction with former Congressman Dave Stockman. Most of these bills are really thinly-disguised HMO preference bills. And the Gephardt-Stockman bill is not much different than that. Instead of Federal subsidies for HMO's, what would be provided is tax incentives which would tend to push people into closed-panel, prepaid practice of one kind or another. Mr. Gephardt's bill goes even beyond that, it would wipe out a variety of State laws. For example, it would pre-empt, without exception, laws preventing the corporate practice of medicine; laws which require that certain types of health care services be delivered only by health care professionals. That is to say it will eliminate the licensing laws or the certification laws for physicians, nurses, and other paraprofessionals. As far as I can tell from reading the literal interpretation of this provision of this bill, one could, after several years of high school education, set yourself up in the corner of a pharmacy as neurosurgeon and practice without restraint. It would eliminate the option for hospital staffs to require that they have an organized medical staff. It would provide for the preemption of a number of other state laws and is not, we believe, in the interest of protecting the health of the people. That is just one challenge.

Another challenge is that there will be, instead of categorical health grants to the States, block grants. That is to say that States will now be given lump sums of money with broad authority,



Morriss M. Henry addresses the House formally accepting the office of president-elect of the Arkansas Medical Society, April 29, 1981.

without supervision by the Federal Government, to attempt to provide for the health needs as they perceive them in their own states. This is a challenge in two ways. One of which is that it will be desirable that medicine see to it that health receives more emphasis in State Administration, just as we will need to see in the Federal Administration that health receives its proper dollars. Today, in most states, health matters are not administered by health officers, but rather are administered by welfare people. As these block grants return to the State, it is going to be necessary that we become very actively involved and will require a very close and intense cooperative endeavor between the American Medical Association and State Medical Societies in order to see to it that the best use is made of the resources.

Now there are other challenges but I will not spend the time this afternoon addressing you on these but rather simply discussing what the AMA's future direction will be. I will have an opportunity tomorrow morning at 8:30 to address your leadership concerning the Board's efforts in the last few months to re-direct our priorities. I will in these next few moments just address that very briefly. To meet the challenges of this changing need and climate before the profession, the Board caused to have a total reassessment of our organizational structure and function over the past six months. We began from a position that if there were no AMA, and we believed that we needed to form one, what would it look like and what would it do? We determined that what we have is an organization that needs, among its priorities, first to represent the profession and serve as its advocate. It needs, also, to be in a position to provide both scientific information and information of socio-economic importance to our membership so that they may act intelligently upon it. An it needs to help assume the role in conjunction with other societies such as specialty societies in the process of establishing, enhancing, and maintaining standards for professional performance rather than abdicate this role to some Federal or state agency. We need to provide membership benefits, but only when they can pay for themselves. We need to build a strong, active, and effective membership. Structural reorganizations that we have recommended will save about seven million dollars in the coming year's budget. Nonetheless,



Purcell Smith, Jr., Little Rock (left) 1981-82 president of the Arkansas Medical Society and Morris M. Henry of Fayetteville, president-elect.

inflation has caught up with us along with everyone else. As a consequence, we will need a request for a dues increase in an incremental fashion beginning with \$35 in 1982, \$25 each year for the two beyond that. The \$35, of course, represents about the cost of taking your spouse out to dinner these days. We believe that the product we have is worth it, we believe the members will certainly be willing to pay for this enhancement of their representation, both in Chicago and Washington.

I would like you to take another look at the dues from a slightly different fashion as it affects physicians in Arkansas. In 1980, Arkansas physicians paid \$434,250 in dues to the AMA. That is one thousand three hundred and thirty-seven dues-paying members. You have 534 members of the Arkansas Medical Society who do not pay dues to AMA. They do not pay \$143,500 — their fair share. You will now, as members, be asked to pay additional dues which will amount to about \$46,000. If in fact, these non-members of AMA were paying their share in this State as well as others, we could be suggesting to you that the dues could be \$70 a year less. We need



Principal officers of the Arkansas Medical Society for 1981-82, from left: John P. Burge, Chairman of the Executive Committee, Treasurer James M. Kolb, Jr., President Purcell Smith, Jr., President-elect Morris M. Henry, and Secretary Elvin Shuffield.

members for a variety of reasons. We need members because we need strength to represent the profession, but we also believe that all physicians in the United States benefit and that all members should pay their way. One might suggest at sometime that perhaps we should, in fact, have unified membership.

Periodically, the American Medical Association Board of Trustees polls our members, using scientific polling techniques, to ask the members what they want from their association. What we hear very loud and clear is that our members want a strong, effective representation. When they are asked why they join, they say it is because we need a strong national organization. I will submit to you that the AMA is that national organization, that the AMA's track record stands out above that of other organizations in the United States and other countries as well — Canada, Britain, and elsewhere — the leadership of those medical associations abdicated to the Government when the first shot was fired. We have not and never will. We continue to provide a strong, effective representation.

I am really very pleased to be with you this afternoon, to share with you this brief report of stewardship on behalf of the Board. I urge that

you leaders of Arkansas Medical Society go back and share this with your colleagues at home. With a strong federation, a committed membership, we will prevail.

Speaker Chudy then introduced the president of the Society, Kemal Kutait of Fort Smith, who addressed the House as follows:

PRESIDENT'S ADDRESS KEMAL KUTAIT, M.D.

It has been a privilege for me to have served as your president for the past year. Thank you for affording me that honor.

When I addressed you as the new president in April 1980, I expressed the hope that we could all work together as a cohesive group to make the year one of achievement. It has certainly been interesting and challenging. Never has there been a time when people within associations needed so urgently to work together to bring their best efforts and abilities to bear on common problems. The challenges which our organization and other associations have faced in the past are likely to be dwarfed by the challenges of the future. Technological change, manpower issues, the challenge of competitive professions and expanding government — all these are beat-

ing upon us with such insistence that there is hardly time to attend to one emergency before another crisis is upon us.

Last year, I discussed problems with the direction of the Health Department. That department has presented one of our greatest challenges. The director of the Health Department was at odds with the Society on many issues. His program for rural health care seemed to establish the department as a provider of primary medical care for acute illness. The Society feels that the Department should follow the traditional course of preventive medicine and protection of the public health, rather than getting involved in acute health care. In November, a new Governor was elected. He had expressed an interest in resolving the problems with the Health Department. Soon after his election, the Governor-elect asked for the assistance of the Society leadership in drafting plans for the operation of the Health Department for the next biennium. Dr. Smith, Dr. Shuffield, Dr. Weber, Dr. Wilkins, Dr. Long, and I, among others, spent a week reviewing Health Department programs and budgets and preparing recommendations for the Governor-elect. We do not know whether our recommendations will actually be implemented, but we were given an opportunity for input, and we feel that is important. The medical profession must be involved in the operation of the Health Department. We hope that the result of our efforts will be beneficial to the citizens of Arkansas, both as recipients of the public health programs and as taxpayers.

Governor White just last week announced his selection of the new Director of the Health Department, Dr. Ben Saltzman. Dr. Saltzman is well known to us all, has been active in the Society, and is certainly aware of our position. We hope that he will return the Department to its traditional role of public health through preventive medicine. We also hope that the Board of Health will be given more authority over the direction of the Health Department; this has been discussed with Governor White.

The Legislature was in session this year and addressed a number of controversial legislative proposals. Appropriations were one of the major problems faced by the legislators, because of the State's financial situation. Jim Weber has served faithfully and well as chairman of the Legislative Committee and we all owe him a lot of gratitude.

He was at the Capitol a couple of days each week, while still taking care of his patients. This meant a lot of long days for him during the session. We sincerely appreciate his dedication and sacrifice on our behalf. Dr. Weber had the excellent assistance of our lobbyists, Mike Mitchell and Ken LaMastus, and we express our thanks to them also for their efforts.

We have at least begun work toward some of the goals set for ourselves last year. One project is progressing satisfactorily. A committee headed by Purcell Smith and Jim Kolb has been working on establishing Society policy statements on a number of issues. The committee has done a lot of hard work and I commend them. This will be a continuing project; the committee has not yet developed policy positions on all subjects under study. It is good that we are establishing written policies on these areas of interest to us and to the public. You have seen the result of the committee's work to date in the report published in the March Journal. You will have an opportunity during the reference committee hearings today to express your opinions on the Society positions proposed.

Just last month, I was one of a group of Society representatives to make a trip to Washington to visit with our Congressional delegation. The staff of the Washington office of the American Medical Association met with us to review current issues prior to our meeting with the Congressmen and Senators. From the briefing we received, it is obvious that the Reagan Administration's proposed budget cuts is the hot issue in Washington. Organized medicine must watch closely the proposal for block grants for health and social programs. In the past, the State has received categorical grants designated for specific programs within the State. All determinations were made at the Federal level. Under the new proposal, control would be turned over to the State and funds would be received as "block grants." There would be a reduction of about 25% in Federal money coming to the State, an amount which is supposed to be the saving in the new method of administration. The State would be allowed some discretion in allocation of funds within four categories. This is an issue which the Society should monitor carefully. We have some doubts about the ability of the states to use their new freedom wisely unless given adequate lead time to develop good programs. We are con-

BUSINESS SESSIONS OF THE HOUSE



Executive Vice President C. C. Long calls the roll of delegates for the House of Delegates. Seated, left to right, are Speaker Amail Chudy, Vice Speaker Pat Phillips, President Kemal Kutait, Secretary Elvin Shuffield, and Legal Counsel Michael W. Mitchell.



Members of the House of Delegates in session; in foreground are delegates from Garland, Pope, and Sebastian Counties. In the background, teller George W. Warren distributes ballots to voting members of the House.



President-elect Purcell Smith, Jr., introduces to the House of Delegates the official representative of the AMA, Dr. Joseph Boyle. Dr. Smith served eight years in the AMA House of Delegates with Dr. Boyle.

cerned that welfare-dominated systems may jeopardize medical needs. While our Congressmen were not optimistic that it *would* happen, the change to "block grant" funding *could* become effective with the 1982 Government fiscal year which begins in October 1981. Since our trip to Washington, Representative Henry Waxman, Chairman of the House Commerce Subcommittee, has introduced an omnibus bill to reauthorize health-related categorical grant programs. We don't know what will happen, but we must watch developments in this area and be prepared to work with the State Government on the "block grant" approach if and when such changes are effected.

With regard to the briefing received from the AMA Washington staff, I feel that most physicians do not realize the amount of effort expended in their behalf by this very capable group of individuals. The people there are very knowledgeable and very dedicated to doing everything they can toward keeping government out of the practice of medicine. They are working for you and you should appreciate the job being done. Another group of individuals who deserve our appreciation are the AMA officers who, in addition to other duties, frequently testify at the various Congressional hearings. Dr. Boyle is very often the AMA spokesman at such hearings.

We had no primary issue of concern in our

visit with the members of Congress on our most recent visit. We enjoyed an exchange of information and renewed liaison with the members of Congress and their staffs. We did request their support for elimination of HSA's. We discussed with them the operation of the PSRO. The Council of the Society voted support and endorsement of the PSRO of the Arkansas Foundation for Medical Care at the February 1981 meeting. During the December 1980 meeting of the American Medical Association, however, that House of Delegates voted 104-100 to encourage the elimination of PSRO's. Members of the Arkansas Congressional delegation indicated that they have been contacted by individuals supporting PSRO, as well as by those opposing the program. We feel that PSRO is a potentially good program. We recognize that there have been and are some problems, but we must admit that there has been and continues to be some good in the program as well. I think we should continue to work with the Foundation to make the PSRO a really beneficial program in evaluating the quality of medical care. We believe that "peer review" for quality medical care must truly be done by physicians. A program for assuring patients care of high quality must be a cooperative venture of physicians and hospitals, and must take into consideration the many different factors affecting the delivery of that care. I believe that such a program can be very effective and beneficial with proper communication and cooperation between the parties involved. I think we must consider the possibility of a review program administered entirely by a Government bureaucracy and directed toward cost containment without quality consideration in the event the PSRO program is eliminated. I know that many of you may not agree with my comments on this subject. The reference committee hearing, this afternoon, will give you an opportunity to express your opinion on the Society policy on PSRO.

Another aspect of the effect of the Federal budget cuts is the reduction or elimination of grants for medical student loans. Because of the increasing cost of tuition for medical school, the loss of loan funds will have a very adverse effect on students at our medical school. We discussed with our Congressmen the desirability of phasing down of student loans rather than an abrupt elimination of them, and the necessity to consider continuing help for the truly needy students.

CANDID SHOTS FROM THE WESTERN PARTY



CANDID SHOTS FROM THE WESTERN PARTY



CANDID SHOTS FROM THE WESTERN PARTY



As with other State institutions and agencies, the Medical School is greatly affected by the tight budget for the State. Physicians of the State should encourage their legislators to give every possible consideration to Medical School appropriations. We have a good medical school and we have good liaison between the Society, Chancellor Ward, and Dean Bruce. We want to work together for the continued growth and development of the College of Medicine.

As you know, Elvin Shuffield and I serve on the Board of Directors of the American Physicians Insurance Exchange (API). API offers malpractice insurance coverage to the physicians of the State. We endorse this company and encourage all of you to consider coverage through API. Latest figures from API indicate that 397 Arkansas physicians are now participating in the API program. If you have any questions in this regard, Elvin or I will be happy to discuss them with you.

Since last year was an election year, it was an active one for the Arkansas Medical Political Action Committee. We now need to build the PAC membership, and its treasury, in preparation for future political campaigns. You will probably have noticed badge stickers with the words "I support PAC." If you don't have one on your badge, I hope that you will check with the convention registration desk or one of the PAC Board members. Ken Lilly is chairman of that Board. PAC needs your support — please join.

Last year, I expressed the hope that the membership would work harder to become a cohesive force. Again, I stress the need for us to band together, to present a united front, to work for the good of medicine and the public. Being a good member calls for effort, attention, and interest. No organization amounts to much whose members' interest is confined to the annual gesture of writing a check for dues. Meaningful membership calls for an active interest in the Association's affairs; attendance at a reasonable number of meetings; reading its publications and communications; serving on committees when called upon to do so; and conducting one's practice in a way that reflects credit on the organization. This kind of membership pays. I repeat my plea of a year ago that we rededicate ourselves to the purposes for which we are organized.

Benjamin Disraeli said it this way: "The secret of success is constancy to purpose."

The retirement plan for Society employees continues to be a controversial subject which is taking a lot of time of the Society governing body. We are now having another review done by an actuarial firm who has not previously been involved with the program. I hope that this study will provide us with an objective and realistic evaluation of the retirement program for our employees and that we will take a non-emotional and responsible approach to action on the report.

Each of us has heard the virtues of our employees extolled and has applauded their efforts in times past. However, unless you have been actively involved in committee work, or been in a leadership role, it would be difficult to truly appreciate what our staff does for us. We see Cliff Long at our Council meetings, Leah Richmond at our Ark-PAC meetings, and Ken LaMastus at our legislative sessions, and each of them at various committee meetings and our annual session. But, until you see them and the rest of the staff at work on a day-by-day basis and see their continuing good works that occur behind the scenes, you lack full appreciation of their dedication, their loyalty, and their true love for the Arkansas Medical Society and its physician members. I particularly wish to single out a staff member who, despite ongoing stresses, continues to work for us and represent us in a truly outstanding manner. This person has dedicated her entire adult life to the continued well being of organized medicine. I have never caught her wanting, have never found her unwilling to offer more than is expected or asked of her, to continue her objectivity, her diplomatic advice and counsel and to dedicate herself to the well being of the Arkansas Medical Society. This person, of course, is Leah Richmond, who in my opinion is one of the best things that has ever happened to organized medicine.

It is going to be a pleasure to work under the leadership of Purcell Smith as he takes the helm of the Society for the next year. I promise him my complete support and encourage each member to support him by actively participating in Society activities, by volunteering for committee work, and offering constructive input. Let's make this a year of recognition as an outstanding professional organization with members working

TUESDAY EVENING INAUGURATION



President Kemal Kutait welcomes members and guests to the inauguration of the new president, Purcell Smith, Jr.



Dr. Kutait administers the oath of office of the president of the Arkansas Medical Society to Purcell Smith, Jr., of Little Rock. April 28, 1981.



Immediate Past President Kemal Kutait receives a plaque of appreciation from Purcell Smith, Jr., the new president.

TUESDAY EVENING INAUGURATION



President Purcell Smith, Jr., new president of the Society, is congratulated by out-going president Kemal Kutait.



The new president of the Society, Purcell Smith, Jr., is applauded by members of the Council and the Society after taking the oath of office.



President Purcell Smith, Jr., makes his acceptance speech to the membership. April 28, 1981.



Dr. Smith is congratulated by members of the Society following his inaugural address.

together for accomplishment worthy of our profession.

Belonging to a group and not participating in its functions is much like being a spectator at a ball game instead of a player. There is a lot of room on our first team for everyone who is willing to play. Your teammates need your help in carrying the ball. Purcell, as president, will make an outstanding team captain—come join with me and help Purcell and our Society have an outstanding year.

Following his address, President Kutait was accorded a standing ovation by members of the House of Delegates.

On behalf of the American Medical Association Education and Research Foundation, President Kutait presented a check for \$22,206 to Dean Thomas Bruce of the University of Arkansas College of Medicine. Both President Kutait and Dean Bruce expressed appreciation to the Arkansas Medical Society Auxiliary, its president, Nancy Boop, and AMA-ERF Chairman Nikki Lawson, for their work for AMA-ERF.

Speaker Chudy recognized Ross Fowler, president of the Arkansas State Medical Board. Dr. Fowler presented to Dr. Joe Verser and his son, Joe William, a memorial plaque from the State Board recognizing the great contribution of Mrs. Verser.

Upon motion of Lilly, the House approved minutes of the 1980 Annual Session as published in the Society Journal.

Minutes of the November 1980 meeting of the House of Delegates were approved by the House, upon motion of James Kolb.

Speaker Chudy called on A. S. Koenig, Jr., chairman of the Constitutional Revisions Committee, for presentation for final consideration a proposed amendment to the Constitution to provide for additional representation on the Council in districts with a membership in excess of two hundred members. Dr. Koenig asked for a vote by secret ballot.

Speaker Chudy asked the credentials committee—Dwight Gray, George Warren, and Lynn Harris—to serve as tellers. The Vice Speaker advised the House that there were 113 eligible to vote and that a two-thirds majority, or 76, would be required to approve the amendment.

The tellers reported the result of the secret ballot on this question as 68 for and 45 against;

therefore, the amendment was not approved. Jouett questioned legality of vote, pointing out that there had not been a second to the motion for secret ballot.

Wilkins then moved that the vote on the question be by secret ballot, and the second was by Hestir. Jones made a substitute motion that there be a standing vote rather than secret ballot, and second was by Jouett. The vote for the Jones motion was 46. The House then voted on the motion by Wilkins and the motion carried.

There was then a ballot vote on the proposed constitutional amendment as presented by Dr. Koenig. The vote was 61 for and 50 against; the amendment was not approved.

Wilkins then moved for reconsideration on the issue, and second was by Jones. The motion carried. Result of the balloting on the amendment was 56 for and 55 against; the amendment was not approved.

Speaker Chudy introduced the President-elect of the AMA Auxiliary, Mrs. Harry Dvorsky of San Leandro, who addressed the House briefly. She expressed appreciation for the opportunity to appear before the House and compliment the Arkansas Auxiliary and its accomplishments. She gave recognition to the work of the Auxiliary in fund raising for AMA-ERF. She stressed that the Auxiliary is a voluntary organization of involvement in many projects across the country. She urged the Society to continue to work with the Auxiliary as equal partners, stating that the Auxiliary is its strongest ally and greatest advocate. Mrs. Dvorsky suggested putting Auxiliary members on Society committees and giving them a vote. She expressed the opinion that when the Society and the Auxiliary work together to solve problems or achieve goals and purposes, the Society would find that the Auxiliary will equal the enthusiasm and expertise of the physicians and the job will be done more effectively and easily.

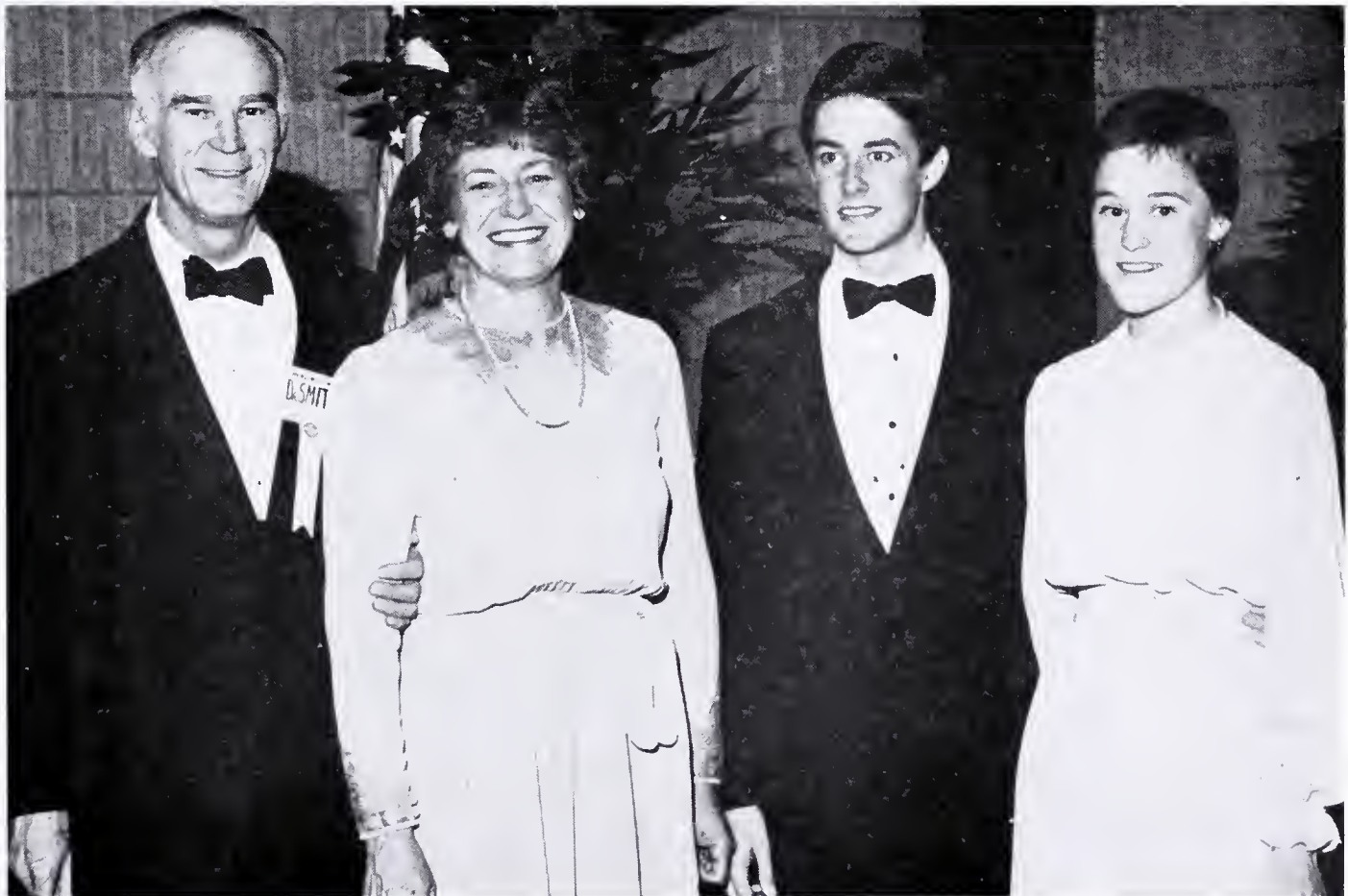
Joe Verser, secretary of the Arkansas State Medical Board, presented the annual report of the State Board. The report was referred to Reference Committee 2. (See report published following minutes.)

Speaker Chudy called on the chairman of the Constitutional Revisions Committee, A. S. Koenig, Jr., for presentation of proposed amendments to the Constitution and Bylaws. The report as published in the March issue of the Journal

RECEIVING LINE FOR COUNCIL RECEPTION



Receiving members and guests at the Council reception on Tuesday evening were (right to left) President Purcell Smith and his wife, Joan; Immediate Past President Kenal Kutait and his wife, Virginia; Chairman of the Council John P. Burge and his wife, Eleanor; and Ada and Elvin Shuffield, Secretary.



President Purcell Smith, Jr., and his family at the inaugural reception ceremony on Tuesday, April 28, 1981. His wife Joan and daughter Cindy Youngblood and her husband Tom. A son, Purcell Smith, III, a 1981 graduate of the University of Arkansas College of Medicine, was unable to be present.

was read by Dr. Koenig. One proposal of the committee was that Article VI, Section 3 of the Constitution be amended to make the Speaker of the House of Delegates a member of the Council and the Executive Committee.

Kemal Kutait, chairman of the Reorganizational Study Committee, presented the following proposed alternative amendment for consideration of the House:

"The chairman of the Council, the president, the president-elect, the secretary, (adding here: and the immediate past president) shall constitute the Executive Committee of the Council. The Chairman of the Council shall serve as chairman of the Executive Committee. The Executive Committee shall have such powers and duties as provided in the Bylaws and as may be defined from time to time by resolution of the Council."

Both reports were referred to Reference Committee Number One for consideration.

Member of the House held district meetings on the floor to select appointments to the Nominating Committee. Elected were:

Larry Lawson, Paragould
Jim Lytle, Batesville
Gerald Guyer, Stuttgart
Paul A. Wallick, Monticello
K. R. Duzan, El Dorado
Lynn Harris, Hope
C. R. Ellis, Malvern
Charles Logan, Little Rock
Stanley Applegate, Springdale
Pat Phillips, Fort Smith

Vacancies on the State Board of Health and the State Medical Board were announced, and Speaker Chudy requested that members from the district involved meet immediately following the House session to select nominees.

Speaker Chudy urged members to attend meetings of the reference committees immediately following the House session.

The first meeting of the House during the 1981 Annual Session ended at 4:25 p.m.

REPORTS AND RESOLUTIONS NOT PRINTED PRIOR TO MEETING

REPORT OF THE SECOND DISTRICT COUNCILOR

Paul Gray, M.D.

The Second Councilor District met on February 19, 1981, at the Batesville Country Club.

Dr. Purcell Smith, Jr., was the speaker. His subject was recent medical news about the State Medical Society.

The meeting was very interesting and informative. The hosts were Paul Gray, M.D., and John Bell, M.D.

REPORT OF THE TENTH DISTRICT COUNCILOR

Charles F. Wilkins, Jr.

The Tenth Councilor District Medical Society met March 10, 1981, at Wyatt's Cafeteria, Fort Smith.

Councilor Charles Wilkins gave a report on various items of business to come before the House of Delegates at the Annual Session in April, including the proposal on increased councilor representation from Pulaski County. General opposition to the proposal was expressed by members of the Tenth Councilor District present. Some items referable to current legislation were also discussed.

A. S. Koenig, chairman of the Arkansas Medical Society's Constitutional Revision Committee, discussed changes in the Constitution and Bylaws proposed by his committee for consideration of the House of Delegates at the annual meeting.

Rogers P. Edmondson of Danville discussed the problems of the Yell County Hospital in Danville and expressed the opinion that most of the problems were due to the current positions being taken by the PSRO. Dr. Edmondson made a motion that the Tenth Councilor District recommend that the Arkansas Medical Society divorce itself from interaction with the Arkansas Foundation for Medical Care and the PSRO. This was seconded and passed unanimously.

RESOLUTION

Re: Social and Non-medical Needs of Patients

WHEREAS, the physicians of the Arkansas Medical Society, whose education, training and purpose is directed toward the health care needs of all the people, and

WHEREAS, we will and desire to accept this auspicious responsibility, realizing we need every reasonable assistance for the best accomplishment of this mission, and

WHEREAS, paramedical and other social service personnel may effectively assist in the need and availability of assistance, and

WHEREAS, we recognize that no individual should be denied or withheld any available as-



Past President H. W. Thomas, Past President and AMA Delegate T. E. Townsend, and Councilor Raymond Irwin visit with Joseph Boyle, Vice Chairman of the Board of Trustees of the American Medical Association.

sistance that is consistent with good medical management, and

WHEREAS, increasing governmental and social pressures require increasing physician participation in determination of social and other non medical needs,

BE IT THEREFORE RESOLVED:

THAT we, the Arkansas Medical Society, oppose the increasing governmental and social pressures for physicians to be placed in the position of certifying the social and non-medical needs of our patients.

Submitted by:

Jefferson County Medical Society

**REPORT OF THE
ARKANSAS STATE MEDICAL BOARD
January 1, 1980 - January 1, 1981**

The officers and members of the State Medical Board are as follows:

Ross Fowler, M.D., President
H. Elvin Shuffield, M.D., Vice President
Hugh R. Edwards, M.D.
Frank M. Burton, M.D.

John F. Guenther, M.D.
George F. Wynne, M.D.
C. Stanley Applegate, M.D.
Bascom P. Raney, M.D.
Joe Verser, M.D., Secretary-Treasurer
John B. Currie, Sr.
Robert M. Cearley, Jr., Attorney

The State Medical Board, because of an anticipated budget deficit, asked for and received approval from the Legislative Budget Committee of the Arkansas Legislative Council to increase the annual registration fee from \$6.00 to \$15.00 for physicians. It is felt that another increase in registration fees will not be necessary for a number of years. It is a pleasure to know that out of nearly five thousand (5,000) licensed physicians who were notified of the increase in annual registration fees, only one (1) letter of complaint was received from a physician by this Board. We had a number of letters from physicians who stated that they understood why we needed an increase in the annual registration fee. Many stated that the \$15.00 fee was much less than other state Boards' annual registration fee.

FLORENCE AND THE NIGHTINGALES



Members of the Jefferson County Medical Society Auxiliary entertained those attending the western party. The Auxilians received a standing ovation following the performance.

FLORENCE AND THE NIGHTINGALES



The State Medical Board passed three (3) new regulations during the year. Regulation #8 permits senior medical students to take the licensing examination before graduation upon certification received from the dean that the student will graduate before the following June.

Regulation #9 requires any physician licensed by written examination to complete an internship within 18 months of the date of licensure.

Regulation #10 would permit a physician to supervise or employ only two (2) Nurse Practitioners. In case of proof of hardship, a physician may be exempted from this restriction and supervise more than two (2) Nurse Practitioners upon approval of the Board. The Board has been challenged in the court by the Arkansas Nurses Association relative to Regulation #10 and the case is now pending in the courts.

The State Medical Board published a 1981 annual directory which has been printed and copies mailed to each physician.

A yearly financial report of the Board's activities, prepared by Johnston, Freeman & Company, has been sent to the office of the Arkansas Medical Society, a summary of which is included in this report.

The Board investigated every case of violation of the Medical Practices Act and every complaint filed against physicians reported to the secretary during the year.

The State Medical Board licensed 136 physicians by examination and 152 physicians by reciprocity during the year 1980.

Following is a summary of the Board's proceedings:

Physicians registered for 1980:	
Resident	2,953
Non-Resident	1,951
Physicians licensed by examination	136
Physicians licensed by reciprocity	152
Physicians certified to other states	118
Licenses revoked for non-payment of annual registration fees	38
Licenses suspended for non-payment of annual registration fees	53
Licenses suspended for violation of Medical Practices Act	6
Cases pending for violation of Medical Practices Act	6

ARKANSAS STATE MEDICAL BOARD
BALANCE SHEET
June 30, 1980 and 1979

ASSETS

June 30, 1980 June 30, 1979

Cash in banks —		
Bank of Harrisburg, Arkansas	\$ 26,827.36	\$ 48,174.70
Checking Account		
Certificates of Deposit	112,307.04	93,685.57
Accrued interest receivable	580.35	227.51
Office Equipment	5,157.85	4,909.62
Less: Accumulated depreciation	(1,875.94)	(1,372.57)
TOTAL ASSETS	\$142,996.66	\$145,624.83

LIABILITIES AND FUND BALANCE

Accounts payable	\$ 4,405.56	\$ 3,479.22
Payroll taxes withheld	—	523.67
Accrued salaries	400.00	—
TOTAL LIABILITIES	4,805.56	4,002.89
Fund Balance	138,191.10	141,621.94
TOTAL LIABILITIES AND FUND BALANCE	\$142,996.66	\$145,624.83



FINAL SESSION

HOUSE OF DELEGATES

Wednesday, April 29, 1981

Speaker Amail Chudy called the House to order at 10:00 a.m. on Wednesday, April 29, 1981. Invocation was by Ken Lilly.

Executive Vice President C. C. Long called the roll of delegates. The following delegates, officers, and members seated as delegates by action of the House were present:

ARKANSAS, Gerald L. Guyer; BAXTER, John F. Guenther; BENTON, Richard Pearson; BOONE, Mahlon O. Maris; BRADLEY, George F. Wynne; CHICOT, Tom Tvedten; CLARK, N. R. Ritter; CRAIGHEAD-POINSETT, Joe Stallings, Frank James; CRAWFORD, Millard Edds; CRITTENDEN, Milton Deneke; DREW, Paul A. Wallick; FRANKLIN, David L. Gibbons; GARLAND, E. K. Clardy, Ronald Bracken, Richard Gardial; GREENE-CLAY, J. Larry Lawson, Darrell Bonner; HOT SPRING, Robert H. White; INDEPENDENCE, Jim Lytle; JACKSON, Joel Cook; JEFFERSON, Banks Blackwell, Lloyd G. Langston, George V. Robertson; LAWRENCE, Ralph Joseph; LEE, Dwight W. Gray; MONROE, N. C. David, Jr.; NEVADA, H. Blake Crow; OUACHITA, Robert Nunnally; POLK, David Fried; POPE, James M. Kolb, Frank Lawrence; PULASKI, Edgar Easley, Charles W. Logan, Robert Shannon, Fred Kittler, Mayne Parker, David Barclay, Kelsy Caplinger, John McCollough Smith, Gordon Oates, Ruth Steinkamp, Harold Purdy, Art Squire, Warren Douglas, Frank Morgan, Warren Boop, Paul Cornell, Charles Crocker, Ronald Williams, Thomas Bruce, Guy Farris, Edwin Hankins, William Morton, Harold Hutson; SEBASTIAN, Carl Williams, Sam Landrum, Annette Landrum, Sam Koenig, Hugh Lewing, A. C. Bradford, McDonald Poe, Morton Wilson; SEVIER, George W. Dickinson; UNION, Willis M. Stevens, Jr., Wayne Elliott; WASHINGTON, John W. Vinzant, Brian Runnels, E. Mitchell Singleton, Stanley Applegate; YELL, R. P. Edmondson; SHARP-FULTON-IZARD, Lewis Allen; COUNCILORS, Merrill J. Osborne, Asa A. Crow, John Hestir, L. J. P. Bell, Raymond Irwin, John P. Burge, George Warren, Cal R. Sanders, C. Lynn Harris,

W. Ray Jouett, William N. Jones, Morris M. Henry, Rhys A. Williams, Charles F. Wilkins, Ken Lilly; PRESIDENT, Purcell Smith, Jr.; FIRST VICE PRESIDENT, Richard Martin; SPEAKER OF THE HOUSE, Amail Chudy; VICE SPEAKER OF THE HOUSE, Pat Phillips; SECRETARY, Elvin Shuffield; TREASURER, Kenneth R. Duzan; PAST PRESIDENTS, Robert Watson, C. R. Ellis, Ben N. Saltzman, W. Payton Kolb, Ross Fowler, and Kemal Kutait.

K. R. Duzan, chairman of the Nominating Committee, presented the following nominations for Society office:

For President-elect: Morris M. Henry, Fayetteville; Ben N. Saltzman, Little Rock

For First Vice President: Frank E. Morgan, North Little Rock

For Second Vice President: Harold D. Purdy, Little Rock

For Third Vice President: Paul A. Wallick, Monticello

For Treasurer: James M. Kolb, Jr., Russellville

For Secretary: H. Elvin Shuffield, Little Rock

For Speaker of the House of Delegates: Amail Chudy, North Little Rock

For Vice Speaker of the House of Delegates: Pat Phillips, Fort Smith

For Councilor:

District 1: Merrill J. Osborne, Blytheville

District 2: Jim E. Lytle, Batesville

District 3: John M. Hestir, DeWitt

District 4: Lloyd G. Langston, Pine Bluff

District 5: George W. Warren, Smackover

District 6: F. E. Joyce, Texarkana

District 7: C. R. Ellis, Malvern

District 8: W. Ray Jouett, Little Rock

District 9: Richard N. Pearson, Rogers

District 10: Charles F. Wilkins, Jr., Russellville

For Delegate to the American Medical Association for the term from January 1, 1982, to December 31, 1983: T. E. Townsend, Pine Bluff

For Alternate Delegate to the American Medical Association House of Delegates for the term from January 1, 1982, to December 31, 1983: W. Payton Kolb, Little Rock

Members Enjoy Social Functions at Convention



Members Enjoy Social Functions at Convention



Ben Saltzman requested that his name be withdrawn from the slate and that Morriss Henry be elected by acclamation. It was so voted.

John W. Vinzant and E. Mitchell Singleton of Washington County escorted Morriss Henry to the podium. In accepting the office of president-elect, Dr. Henry addressed the House as follows:

"Thank you very much. I have had the pleasure of serving the Arkansas Medical Society as councilor and this has been a real pleasure for me. During this time, I have also had an opportunity to meet many fine physicians over the State and develop real fine friendships, for which I am very grateful. Being elected to the presidency of a Society such as this one is really an honor and I am truly grateful for this honor. I would like to have just a few moments for us to stop and think, though, why do we serve in this organization, what do we have to gain from it and what do we have to offer for it, why do we belong to this organization, what can we do to make the Arkansas Medical Society a better organization? If we work together, we can accomplish a great deal. I hope and pray that over the coming years, we will all work together in a spirit of harmony and cooperation to make the Arkansas Medical Society a truly outstanding organization dedicated to the improvement of quality medical care for all the people of Arkansas. Thank you."

Speaker Chudy then asked for nominations from the floor for the office of first vice president. Upon motion of Lilly, Dr. Morgan was elected by acclamation. Speaker Chudy then expressed thanks to Dr. and Mrs. Morgan for their outstanding work on the 1981 meeting and the House gave Dr. Morgan a round of applause.

There were no nominations from the floor for the offices of second and third vice president and the committee's nominees were elected by acclamation.

Speaker Chudy then called for nominations for the position of Treasurer. Cal Sanders nominated George Warren. By vote of the House, James M. Kolb, Jr., was elected treasurer.

All other nominations presented by the committee were elected by acclamation.

Speaker Chudy then called for reports from the Reference Committees.

REFERENCE COMMITTEE NUMBER ONE

Richard Martin, Chairman

The members of Reference Committee Number One were Gordon P. Oates, Robert Shannon, Frank M. Lawrence, Norton R. Ritter, John W. Vinzant, and myself, as chairman, and the Council liaison officer, Raymond Irwin.

Mr. Speaker and members of the House of Delegates, your Reference Committee Number One wishes to make a report on the items referred to us.

1. The Committee on Public Health, Ben Saltzman, Chairman
2. Committee on Continuing Medical Education, John Hestir, Chairman
3. Committee on Medicine and Religion, Fred Henker, Chairman
4. Tenth Councilor District Professional Relations Committee, Samuel Landrum, Chairman
5. Report of Eighth District Councilors, Ray Jouett and William Jones, Councilors

Mr. Speaker, we move that these reports be filed for record. There being no objection, it was so ordered.

The Committee also heard a report by Dr. Robert Watson, President of the Medical Education Foundation for Arkansas. We recommend his report be accepted as written and I so move. It was so ordered.

Mr. Speaker, the committee heard a resolution by J. Mayne Parker from the Arkansas Ophthalmological Society regarding proper use of prescription and pharmaceutical agents and after some changes in the wording of the resolution, we recommend this be accepted and I so move. The resolution was further modified by the House; the resolution as approved is:

RESOLUTION RE: Proper Use of Prescription and Pharmaceutical Agents

BE IT RESOLVED by the Arkansas Medical Society that whereas the proper use and prescription of pharmaceutical agents can only be determined by a medical, dental, veterinary, or osteopathic doctor, and

WHEREAS the public health and welfare would be endangered by permitting those not properly trained and experienced in the science and art of medicine, dentistry, veterinary medicine, or osteopathy to use or prescribe such agents.

THEREFORE, the Arkansas Medical Society wishes to go on record as opposing any legislation which would compromise the integrity of the relationship between doctors of medicine and their patients.

THEREFORE, the Arkansas Medical Society opposes the diagnostic use or therapeutic prescribing of drugs by any person or persons who are not licensed doctors of medicine, dentistry, veterinary medicine, or osteopathy in the State of Arkansas.

BE IT FURTHER RESOLVED, that this information be forwarded to all individuals in responsible Governments.

The Committee heard a great deal of discussion on the report of the Constitutional Revisions Committee submitted by Dr. Koenig, the chairman. The Committee wishes to make the following recommendations regarding this report:

1. That the bylaws regarding the election of officers not be changed with the exception that the nominating committee, after being selected on the first day of the annual meeting, should submit its slate of officers by February 1st of the next year so that the slate may be published and the election process otherwise carried out as it is at the present. Mr. Speaker, I so move. The House voted its approval and the Speaker declared the vote represented approval on first reading of the proposed Constitutional revision.
2. That the chairman of the Council, the president, the president-elect, the secretary and the immediate past-president shall constitute the Executive Committee of the Council. Mr. Speaker, I so move. The House voted its approval and the Speaker declared the vote representative of the approval on first reading of the proposed Constitutional revision.
3. Delegates be elected by the county society to serve for the calendar year based on the State Society membership of the component societies at the end of the prior year. Mr. Speaker, I so move. Upon motion of Elliott, recommendation number three was referred to the Constitutional Revisions Committee for study.

The Committee heard discussion on the report of the Council by Dr. Burge and recommends the acceptance of his report as written. There being no objection, it was so ordered.

Mr. Speaker, this concludes the report of Refer-

ence Committee Number One. I wish to thank those who appeared before this reference committee, my fellow members of the committee, and members of the staff who assisted us.

Secretary Shuffield asked for clarification regarding the Tri-County Medical Society. Dr. Allen responded that the component group was composed of physicians in Fulton, Izard, and Sharp counties. It was recommended that the component group consider using the county names rather than "Tri-County" for clarification purposes and Dr. Allen indicated a willingness to make this modification.

REFERENCE COMMITTEE NUMBER TWO

Frank E. Morgan, Chairman

Mr. Speaker, your Reference Committee Number Two, composed of J. Larry Lawson, Horace L. Green, John B. Simpson, Warren M. Douglas, Ken Lilly, and myself, and Morriss Henry, liaison officer from the Council, has met and makes the following recommendations:

1. Committee on Aging, Chalmers Pool, Chairman
2. Sub-Committee on Liaison with Vocational Rehabilitation, John Wood, Chairman
3. Committee on Public Relations, Milton Deneke, Chairman
4. Sub-Committee on Liaison with the Auxiliary, Warren Boop, Chairman
5. Committee on Arrangements for the Annual Session, Frank Morgan, Chairman

Mr. Speaker, this Committee moves that these reports as printed in the March issue of the Journal of the Arkansas Medical Society be filed for reference. There being no objection, it was so ordered.

The Committee reviewed the report of the Arkansas State Medical Board as presented at the House of Delegates meeting on Sunday by Dr. Verser, and the Committee recommends that the report be filed for reference. It was so ordered.

The report of the Budget Committee, Ken Lilly, Chairman, was reviewed and it is the recommendation of this Committee that this budget be adopted as printed in the March issue of the Journal of the Arkansas Medical Society and I so move. There being no objection, it was approved.

Report of the Arkansas Medical Society Political Action Committee, Ken Lilly, Chairman. Mr. Speaker, there was some disagreement with PAC's performance in the past years in regard to support

of certain candidates. The chairman has agreed to take these comments back to his committee. Mr. Speaker, we, therefore, move that this report be filed for reference. It was so ordered.

Arkansas Foundation for Medical Care, Mr. Paul Schaefer, Executive Director. Mr. Speaker, we recommend that this report be filed for reference as printed in the March issue of the Journal of the Arkansas Medical Society, and I so move. It was so ordered.

Tenth Councilor District Report, Charles Wilkins, Councilor. Mr. Speaker, a lengthy discussion of this report was made. The majority of the testimony was in opposition to the motion in the Tenth Councilor District Report. It is our recommendation that this councilor report be accepted for information because of the motion concerning PSRO and, because of the discussion, it is our recommendation that the Arkansas Foundation for Medical Care pay particular attention to the small hospitals' problems with PSRO and to help identify the problems and solve them. Mr. Speaker, we recommend that the Tenth Councilor District Report be accepted for information with the exception of the motion on PSRO, and I so move.

Joel Cook moved an amendment to the motion to state that the majority of those speaking for PSRO were in some way directly related to the PSRO program. The chair cast the vote to break a tie and the amendment lost.

The House then approved the recommendation of the Reference Committee.

Mr. Speaker, I wish to thank those who appeared before this reference committee, my fellow members of the Committee, Mr. Lee Archer, the medical student observer, and those members of the staff who assisted us.

REFERENCE COMMITTEE NUMBER THREE

Harold Purdy, Chairman

Reference Committee Number Three consisted of Mahlon Maris, Robert Nunnally, Ruth Steinkamp, Nathan F. Austin, A. Samuel Koenig, III, and myself, and Charles F. Wilkins, Jr., as Council liaison officer. The Committee recommends approval of the following reports and resolution as presented:

1. Committee on Medical Legislation, James Weber, Chairman
2. Sub-Committee on Maternal and Child Welfare, E. A. Shaneyfelt, Chairman

3. Report of the Professional Relations Committee, Eighth District and State, Richard Logue, Chairman

4. Report of the Fifth District Councilor, George Warren, Chairman

5. Report of the Ninth District Councilor, Morris Henry, Chairman

6. Report of the Executive Vice President, C. C. Long

7. Second District Councilor Report, Paul Gray and John Bell, Councilors

Speaker Chudy asked the House for approval of accepting for filing the reports listed above. There being no objection, it was so ordered.

Dr. Purdy then read the resolution from the Jefferson County Medical Society and presented the recommendation from the Reference Committee that the resolution be approved. After discussion, there was a standing vote on approval of the resolution. The Speaker cast his vote to break a tie and the resolution was approved.

The Committee considered the report of the Sub-Committee on Tuberculosis. The report urges the State Health Department to restore full service to patients with tuberculosis.

The Committee supports the section of the report concerning tuberculosis patients. It is obvious that funds are not available for all chronic disease patients and we recommend that the tuberculosis portion be supported. Speaker asked for acceptance for filing and, with no objection, it was so ordered.

Report of the Ad Hoc Committee on Position Papers. On the section entitled "Physician Extenders" under the "Arkansas Medical Society Position," the first sentence of the sixth paragraph reads, "The Arkansas Medical Society believes that the most effective method to insure quality medical care utilizing physician extenders is that which involves *on-sight* supervision by a practicing physician supervising no more than two physician extenders at one time." Mr. Speaker, the Committee recommends that the spelling of the word "on-sight" be changed to "on-site."

Mr. Speaker, I move that the House adopt the report of Reference Committee Number Three as amended. It was so ordered.

Vice Speaker Phillips then called on the chairman of the Council, John P. Burge, for the report of the Council covering meetings held during the Annual Session.



Dr. and Mrs. Frank Morgan, North Little Rock. Dr. Morgan was chairman of the Annual Session Committee. He was assisted in decorations, etc., by his wife, Margaret Ann.



A former president and new councilor, C. R. Ellis, was the subject of this photograph by the official convention photographer. Dr. Ellis is sometimes referred to as the Society photographer.



Dr. and Mrs. Elvin Shuffield at the Council-hosted reception on Tuesday evening.



Kemal Kutait and Carl Wilson of Fort Smith enjoy the Council reception on Tuesday evening.

REPORT OF THE COUNCIL

John P. Burge, Chairman

The Council met on Sunday, April 26, 1981, and transacted business as follows:

1. Adopted a memorial resolution honoring a past president, T. Duel Brown.
2. Voted to appoint an ad hoc committee to study the Hospice program concept and to make a recommendation to the Council at its next meeting regarding endorsement and support for the program.
3. Approved a report of the Ad Hoc Committee on the Annual Session which recommended that the usual schedule for the four-day annual session be followed for the 1982 meeting to be held during the latter part of the week. Business meetings would be held on Thursday and Sunday, with scientific sessions on Friday and Saturday. The Memorial Service would be scheduled for Sunday.
4. Approved action of the Executive Committee in appointing Homer G. Ellis to the Arkansas Family Planning Council.
5. Approved a request from the Public Relations Committee for permission to consult with the Budget Committee on costs for an additional executive staff person in the headquarters office to be responsible for public relations projects.
6. Approved requests for dues exemptions as submitted by the component medical societies.
7. Approved the annual report of audit of the Society records.
8. Approved granting of a charter to the Tri-County Medical Society.

The Council met on Monday, April 27, 1981, and took action as follows:

1. Approved the following recommendations of the Reorganizational Study Committee:
 - (1) *Acceptance of appointments; failure to serve*
 - (A) Individuals should indicate in writing their willingness to accept committee appointments and/or election to Society office before officially being appointed or installed.
 - (B) If an individual is absent for three consecutive meetings of the body to which appointed or elected, a letter should be written to the individual noting his absences and requesting

an indication whether he would be able to serve or should be replaced.

- (C) A committee member should be asked each year to reconfirm his willingness to serve on a Society committee even though his term has not expired.
- (D) A letter should be forwarded to each new member as he joins the Society, asking the member to designate his area of interest for Society committees.

(2) *Vacancies in executive staff positions*

When a vacancy occurs in any executive level position on the headquarters staff, a search committee is to be appointed composed of not more than five members of the Council. The selection for the committee membership should be made by the president and approved by the Council. The Executive Committee should be authorized to appoint an interim executive until vacancies are filled and appointments to the headquarters staff would be provisional for the initial six months period of employment.

2. The Council rejected a recommendation from the Reorganizational Study Committee that component society delegates and alternates must be designated by a component society prior to being seated in the House of Delegates. The Council voted to refer to the Constitutional Revisions Committee for study the question of possible conflicts in the Constitution and Bylaws regarding delegates to the House of Delegates.
3. The Council heard a report from Mr. William Morton of Actuarial Associates on his study of the pension plan for Society employees. Figures presented by Mr. Morton indicated that several employees would have their benefits reduced by the change from a defined benefit plan to a defined contribution plan.

The Council voted to instruct the Board of Trustees of the Pension Plan that it is the intent of the Council that no employee of the Society shall suffer loss of benefits as a result of the change to the defined contribution plan.

4. The Council directed the Executive Vice President to start paying on a monthly basis the Society's contribution to the defined contribution plan, and that payments be made retro-



Ross Fowler, president of the Arkansas State Medical Board, presents a memorial plaque to the family of the late Geraldine O. Verser. The plaque was in recognition of the many years of service Mrs. Verser gave the State Board. Dr. and Mrs. Verser's son, Joe William, attended the presentation.

active to October 1980. Eleven percent of each employee's compensation is to be deposited in the retirement account of that employee.

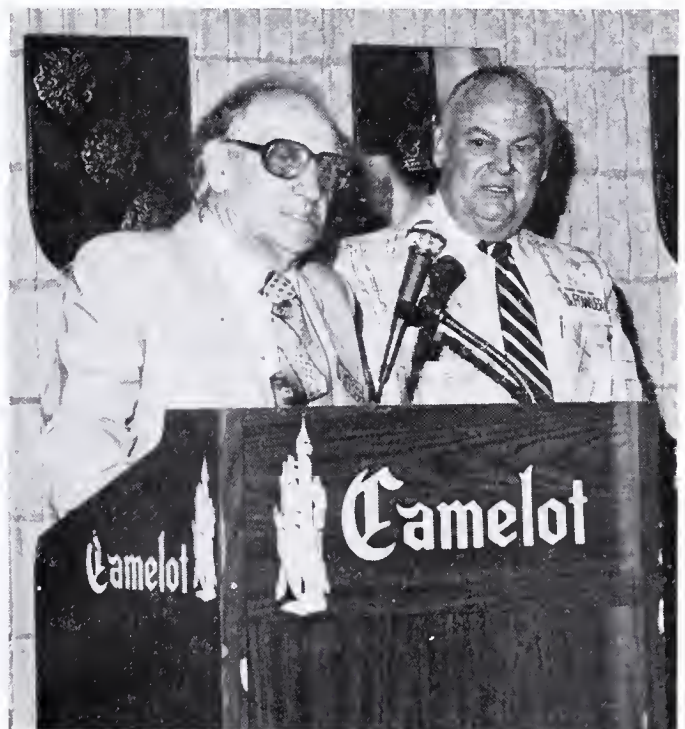
5. The Council approved a request from the Committee on Medicine and Religion for financial support up to \$500 for a physician-clergy seminar planned for the fall of 1981.

The Council met on Tuesday, April 28, 1981, and transacted the following business:

1. Heard a report from Pat Phillips, Chairman of the National Legislative Committee, regarding the congressional visitation in March.
2. Appointed the following to the Ark-PAC Board of Directors:

John Hestir, DeWitt
 Ken Lilly, Fort Smith
 Raymond Biondo, North Little Rock
 Jerry Mann, Arkadelphia
 Donald Duncan, Texarkana
 W. Payton Kolb, Little Rock
 F. E. Joyce, Texarkana
 George W. Warren, Smackover
 Larry Lawson, Paragould
 Bobby McKee, Jonesboro

Mrs. Virginia Kutait, Fort Smith
 Mrs. Joan Cornell, Little Rock
 Mrs. Eleanor Burge, Lake Village
 Mrs. Joyce Wilkins, Russellville



Dr. Verser expresses appreciation for the plaque from the State Board.

3. Made the following appointments to the Medical Services Review Committee:
Representing Surgery: Larry Lawson, Paragould
Representing Family Practice: Charles Rodgers, Little Rock
Representing Internal Medicine: J. Presley Jackson, Little Rock
Representing Obstetrics-Gynecology: David Barclay, Little Rock
Representing Pathology: John D. McConnell, Little Rock
Representing Pediatrics: Dale D. Briggs, Little Rock
4. Appointed Ken Meacham of Searcy and Dwight Gray of Marianna to the Arkansas State Arbitration Commission.
5. Appointed Kemal Kutait of Fort Smith to the Board of Trustees of the Pension Plan for Society Employees.
6. Voted to submit the following nominations to the Board of Trustees of Arkansas Blue Cross-Blue Shield for a vacancy to be created in March 1982:
Jim Lytle, Batesville
Kemal Kutait, Fort Smith
Purcell Smith, Jr., Little Rock
7. Reappointed Robert Watson of Little Rock to the Board of Directors of the Medical Education Foundation for Arkansas.
8. Heard a report on the AMA Leadership Conference by William Jones.
9. Recommended that the Annual Session Committee consider scheduling of reference committee hearings at the 1982 meeting on Friday morning.
10. Voted to make the Committee on Position Papers a standing committee of the Council.

The Council met on Wednesday and transacted the following business:

1. Approved appointment of Donald Duncan, Bill Trantum, Jim Adamson, and Warren Murry to the Ad Hoc Committee to Study the Hospice Program.
2. Selected Peter Irwin of Fort Smith as the Orthopaedic representative on the Medical Services Review Committee.
3. Authorized the chairman of the Continuing Medical Education Committee and a staff executive to attend an AMA seminar on continuing medical education.

4. Directed that the proposed plan document for the defined contribution plan for the employee retirement program be studied by the Plan Board of Trustees and presented for consideration by the Council at its next meeting with the Trustees' recommendation.
5. Directed that, pending approval of the defined contribution plan for the Society employees pension plan, plan participants be credited with interest in the amount of 13.25% on 11% of compensation.

Upon motion of Logan, the report of the Council was approved by the House.

MEMORIAL RESOLUTION

T. Duel Brown, M.D.

WHEREAS, Dr. T. Duel Brown died on March 18, 1981, after a long and distinguished career in medical practice, and

WHEREAS, he served with distinction as President of the Arkansas Medical Society in 1957-1958, and

WHEREAS, Dr. Brown served as an outstanding example of a physician who was dedicated not only to his family and practice, but also to his community and his profession;

THEREFORE, BE IT RESOLVED that the Arkansas Medical Society record its sincere appreciation for Dr. Brown's outstanding service, and

BE IT FURTHER RESOLVED that the Society convey its respect and sympathy to his widow, Lois, and the family.

April 18, 1981

Council of the Arkansas Medical Society

* * * *

Vice Speaker Phillips called for new business and reminded members of the House that any new business required two-thirds consent of delegates for introduction.

President-elect Morriss Henry moved for suspension of the rules requiring that an item of business be submitted to the office of the Executive Vice President twenty days prior to the meeting to be considered by the House so that he may propose a motion to direct the Council of the Arkansas Medical Society to redistrict itself. The request for suspension of the rules was approved.

Dr. Henry then moved that the House of Delegates instruct the Council of the Arkansas Medical Society to redistrict itself prior to the annual spring meeting of the Arkansas Medical Society

in 1982. Second was by A. C. Bradford of Sebastian County.

Speaker Chudy recognized Charles Wilkins, who made the following presentation:

"Mr. Speaker, officers and fellow councilors and members of the House of Delegates. I am Charles Wilkins, senior councilor from the Tenth Councilor District. Today, I don't want to speak for the Tenth Councilor District, or Pope County, or Russellville. I want to speak as a councilor of the Arkansas Medical Society. My concern is for the interest of every member of the Arkansas Medical Society and I hope the interest of every citizen of Arkansas insofar as the access to good medical care is concerned. I feel that my fellow councilors share my concern. Much of our present problem and dilemma actually has its roots deep in the past with old animosity which has never been put to rest. Our world of medicine has changed drastically in the past thirty-five to forty years; I think it is time for us to change. Last Sunday, we laid to rest, at least for the present, the idea of better representation by increasing the number of councilors. Although I



Charles R. Henry of Little Rock (left) was elected president of the Fifty Year Club of the Arkansas Medical Society and Edgar J. Easley, also of Little Rock, was elected secretary.

FIFTY YEAR CLUB LUNCHEON



Present for the Fifty Year Club luncheon on Monday, April 27, 1981, were (seated, left to right) Raymond Cook, Little Rock; Paul S. Read of Fairfield Bay; Eva F. Dodge of Little Rock; Curtis W. Jones, Sr., of Benton; and Irving J. Spitzberg of Little Rock; standing, left to right, Roy I. Millard of Russellville; Henry C. Hollenberg of Little Rock; G. Allen Robinson of Harrison; Clyde D. Rodgers of Little Rock; Wallace G. Dickinson of DeQueen; Edgar J. Easley of Little Rock, and Charles R. Henry of Little Rock.

personally voted against the change, I was only concerned about the increasingly unwieldy size of the Council. It is becoming inefficient and becoming expensive to maintain in its present form. Many of our councilor districts are heterogeneous with no significant demographic factors as an excuse for existence. I think their function should be reconsidered. To me, the only political subunit of this Society should be the component, county or multi-county society. The House of Delegates where membership is according to membership numbers should remain the final law. I personally think the councilor districts should be dropped as a political entity and should be used only as a means of insuring a fairly uniform distribution of councilors over the State. Every councilor should represent every doctor in Arkansas and I consider it the responsibility of the House of Delegates to see that this is the case. Remember, the final election of all Councilors is by the House of Delegates. I think the time has come for a major reapportionment or redistricting of the Council. It is my personal feeling that this should be designed to reduce the size of the Council to eight to ten in number. But another approach would be to increase the number of districts rather markedly to insure a better distribution. In either case, we can easily design this to occur gradually with no councilor being dropped. The reorganization can occur by attrition until the Council reaches its final form as dictated by this House. To paraphrase George Mitchell's Jerry Clower story in which his cousin

Marcel Ledbetter was involved in a fight with a bobcat atop a tree and he yelled down 'Shoot up here amongst us because one of us needs relief.' Fellow physicians, I think we had better give this our best shot because all of us need relief."

Following Dr. Wilkins' comment, the House voted on the motion by Dr. Henry and it was unanimously approved.

The House approved nominations from the Congressional district as follows:

For the State Board of Health:

A. Samuel Koenig, III, Fort Smith

Carolyn Wilson, Mountain Home

John W. Vinzant, Fayetteville

For the State Medical Board:

Ross Fowler, Harrison

Speaker Chudy recognized R. P. Edmondson of Yell County who stated that he felt he had not been allowed to vote on approval or disapproval of PSRO as now being administered. He proposed a motion that the Arkansas Medical Society go on record as disapproving PSRO as now being administered. The vote on approval for consideration was 13 for and 46 against.

Ben Saltzman called the attention of the House to the fact that Kenneth R. Duzan of El Dorado was leaving the Council after having served as treasurer for seven years and that Dr. Duzan had served as councilor for a number of years prior to becoming treasurer. The House expressed its appreciation to Dr. Duzan through its applause.

The final session of the House of Delegates for the 1981 Annual Session adjourned at 11:55 a.m.



SCIENTIFIC SESSIONS

The theme for the general session program for the 1981 meeting was "Medical Update for the Practicing Physician." Frank E. Morgan of North Little Rock was program chairman.

As second vice president, Dr. Morgan presided at the opening general session. The first speaker was Roy Witherington, Professor and Chief, Section of Urology, Medical College of Georgia, who spoke on "Update on Penile Lesions of General Interest." Fred O. Henker, III, Professor of Psychiatry at the University of Arkansas College of Medicine, spoke on "Father of Arkansas Medicine, P. O. Hooper." "Tumor Board of Breast Cancer"

was presented by Glen F. Baker, Kent C. Westbrook, W. D. Haynes, Bill L. Trantum, and John B. Cone, all of Little Rock. Following intermission and exhibit visitation, the program continued with a presentation by Kenneth L. Mattox, Associate Professor of Surgery at Baylor College of Medicine, "What's New and Over the Horizon in Trauma Management." A presentation by O. B. Harrington of Memphis on "Coronary Artery Disease in the Elderly" concluded the morning session.

Richard O. Martin of Paragould, first vice president, presided over the second general ses-

sion on Monday afternoon. The session opened with "Lyme Arthritis—Case Presentation and Review" by W. Robert Thurlby of Russellville. "Forms of Sensorineural Deafness for Which We Have a Treatment Today" was presented by Brian F. McCabe, Professor and Head of the Department of Otolaryngology and Maxillofacial Surgery of the University of Iowa College of Medicine. James A. Duke, Professor of Surgery at the University of Texas Medical School at Houston spoke on "Management of Nutritional Problems." The last speaker on the afternoon program was Lloyd A. Wells, Adult Psychiatrist with Mayo Clinic, whose subject was "The Differential Diagnosis of 'Functional' Complaints."

The final session on Tuesday morning was presided over by Harold Purdy of Little Rock, third vice president. The first speaker was Mr.

James A. Williams, Legal Counsel for American Physicians Insurance Exchange, who spoke on "Paranoia Malpractice—Symptoms, Cause and Cure." Michael J. Weber, Assistant Professor of the Department of Orthopaedics of the University of Arkansas College of Medicine, spoke on "Closed Intramedullary Nailing of Femoral Fractures." An "Update on Common Gynecologic Malignancies" was presented by David L. Barclay of Little Rock. Kenneth N. Walton, chairman of the Division of Urology of Emory University School of Medicine, discussed "CAT Scanning in Urology." A presentation on "Some Medical Concerns in Sports Medicine" by Nathan J. Smith, Professor of Pediatrics and Sports Medicine at the University of Washington, concluded the scientific program.



RELATED MEETINGS

The Arkansas Chapter of the American College of Surgeons held a luncheon meeting on Monday, April 27, with Kenneth L. Mattox of Baylor as guest speaker. Carl Williams of Fort Smith is president of the Chapter, Charles Logan of Little Rock is secretary, and J. Larry Lawson of Paragould is vice president.

The Arkansas Academy of Ophthalmology met at 9:00 a.m. on Tuesday, April 28, with Patrick O'Connor of San Antonio as a guest lecturer. James Landers of Little Rock is program chairman of the Academy. E. Mitchell Singleton of Fayetteville is president of the Arkansas Ophthalmological Society and A. Henry Thomas of Little Rock is secretary-treasurer of the Society.

The Otolaryngology—Head and Neck Surgery Section held a meeting beginning at 9:00 a.m. on Tuesday, April 28th, with Brian McCabe of the University of Iowa College of Medicine as guest speaker. Paul Wills of Fort Smith is president of the Section, A. Reed Thompson of Little Rock is president-elect and Dwayne L. Ruggles is secretary-treasurer.

The Arkansas Urologic Society met on Tuesday, April 28. Roy Witherington of the Medical College of Georgia was guest speaker. W. Ely Brooks of Fayetteville is president of the Society and Steven K. Wilson is secretary.

The Arkansas Society of Pathologists met on Tuesday, April 28, with Mr. Al Ercolano, Director of the College of American Pathologists, and Mr. Jack Boierig, legal counsel with the College.

The Neurosurgery Section held a meeting on Tuesday, April 28, for a business session. Mike Dulligan was elected secretary of the Section.

The Arkansas Chapter of the American Academy of Pediatrics held a luncheon meeting on Tuesday, April 28, with Nathan Smith of Seattle as guest speaker.

The Arkansas Academy of Family Physicians met on Tuesday, April 28. Kenneth Walton of Emory University School of Medicine was guest speaker. Bruce Schratz of North Little Rock is president of the Academy and R. Jerry Mann is president-elect.

The Arkansas Chapter of the American College of Obstetricians and Gynecologists held a luncheon meeting on Tuesday, April 28. J. F. Kelsey of Fort Smith is chairman for the Chapter.

The Arkansas Orthopaedics Society met on Tuesday, April 28, with Carl Nelson of Little Rock presiding as president. James M. Kolb, Jr., of Russellville was elected president for the ensuing year and Jim Moore of Fayetteville was elected secretary.

The Arkansas Society of Internal Medicine held a luncheon meeting on Tuesday, April 28th. Speakers included Mr. Bob Doherty, a staff member of the American Society of Internal Medicine, and George K. Mitchell, president of Blue Cross-

Blue Shield of Arkansas. Monte Painter of Fayetteville was elected president of the Society, Jack Blackshear of Little Rock was elected vice president, and Jerry Stewart of Fort Smith was named secretary.



SCIENTIFIC EXHIBITS

Physicians and allied health organizations participated in the exhibits for the 1981 meeting. The Society expresses its thanks to individuals who displayed exhibits and added to the educational benefit of the meeting. A listing of exhibitors follows:

- Joe B. Colclasure, "Outpatient Facial Plastic Surgery in Otolaryngology."
- William J. Byrne and Arthur R. Euler, "The Use of Esophageal Function Tests in the Evaluation of Pediatric Age Patients with Suspected GER."
- Alpha Plasma Center.
- Arkansas State Hospice Association.
- Jacob Amir, "B Cell Dyscrasias."
- Kent Westbrook and Ducote Haynes, "Breast Conservation."
- H. A. Ted Bailey and James Pappas, "The Cochlear Implant."
- Robert McGrew, "A Technique of Tonsillectomy Using Needlepoint Cautery."
- Michael W. Stannard and J. F. Jimenez, "Fontanelle Sonography."
- The Retinal Group, Ltd., "Presumed Ocular Histoplasmosis Syndrome."

- Library of the University of Arkansas for Medical Sciences, "History of Medicine Archives."
- Ellery C. Gay, Jr., "Cosmetic Surgery in an Out-Patient Center."
- Social Security Administration, "Disability Evaluation Under Social Security."
- Glen Baker, Albert Kalderon, William Wetzel, "Electron Microscopy of Tumors" and "Metabolic Laboratory."
- Arkansas Hand Club, "Upper Extremity Disorders Occurrence and Financial Impact."
- St. Joseph Hospital, Memphis, "Gynecologic Oncology."
- James Y. Suen, "A New Technique for Voice Restoration in the Laryngectomized Patient."
- Mr. Jack Diner, "Impression Method of Fitting Artificial Eyes."
- D. Bud Dickson, "Arthroscopic Knee Surgery for the Athlete — for the Arthritic," "Total Joint Replacement," "Total Hip Replacement," and "Total Knee Replacement."
- "Arkansas Child Find Project."
- Charles Gordon, "Arkansas Army National Guard."
- James F. Kyser, "Rhinoplasty."



OTHER ACTIVITIES

MEMORIAL SERVICE

A joint Society-Auxiliary Memorial Service was held at 1:00 p.m. on Sunday, April 26, with Society President Kemal Kutait presiding.

"The Lord's Prayer" was sung by Miss Carol Lopez, soloist with the Central Baptist Church of North Little Rock. She was accompanied by Frank Morgan of North Little Rock.

Ray Jouett of Little Rock read passages from

Scripture — Matthew 5, verses 14-16; Psalm 1; and Ephesians 5, verse 8.

Mr. Randal A. Woodfield, Minister of Music at the 47th Street Baptist Church in North Little Rock, sang "The Holy City," accompanied by Dr. Morgan.

The names of deceased members of the Society were read by Dr. Kutait. The names of deceased members of the Auxiliary were read by Mrs. War-

ren Boop, president. As each name was read, a candle was extinguished and a red carnation was placed in a vase. Assisting in this part of the program were Mrs. Frank Morgan and Warren Boop.

The benediction, "Eternal Life," was sung by Miss Lopez and Mr. Woodfield.

IN MEMORIAM

Olen W. Bridges, Searcy
 T. Duel Brown, Little Rock
 H. David Bryan, Benton
 J. W. Butts, Helena
 E. J. Chaffin, Hughes
 C. Frank Dodson, Jr., Little Rock
 James W. Freeland, Star City
 Davis W. Goldstein, Fort Smith
 Surinder N. Gupta, Hot Springs
 William B. Hodges, North Little Rock
 Mac McLendon, Marianna
 H. B. Oldham, West Helena
 Virgil L. Payne, Pine Bluff
 Lon E. Reed, Hot Springs
 Allen R. Russell, Pine Bluff
 Roy E. Schirmer, Fort Smith
 U. Lee Smith, Nashville
 W. D. Smith, Texarkana
 Bill Dave Stewart, Little Rock
 J. B. Wharton, Jr., El Dorado
 John H. Wilson, Magnolia
 Mrs. Jacob P. Ellis, El Dorado
 Mrs. William C. Fields, Sr., Marianna
 Mrs. Stephen B. Finch, Fayetteville
 Mrs. John A. Hall, Clinton
 Mrs. George Harrod, Little Rock
 Mrs. Morriss Henry, Fort Smith
 Mrs. Jacob B. Hesterly, Prescott
 Mrs. Paul H. Jeffery, Batesville
 Mrs. R. B. Robins, Camden and Little Rock
 Mrs. H. W. Thomas, Dermott
 Mrs. Joe Verser, Harrisburg
 Mrs. Floyd Webb, Blytheville

PRAYER BREAKFAST

A Prayer Breakfast was sponsored by the Society's Committee on Medicine and Religion. The breakfast was held on Tuesday morning, April 28, beginning at 7:15 a.m. Fred Henker, III, of Little Rock, is chairman of the Medicine and Religion Committee.

The invocation was by Lawson Glover of Little Rock. C. R. Ellis of Malvern led group singing. The Scripture reading was by George Schroeder of Little Rock. The devotional message was by

Joe Norton of Little Rock. Benediction was also by Dr. Glover.

FIFTY YEAR CLUB

The Fifty Year Club of the Arkansas Medical Society held a luncheon meeting on Monday, April 27. G. Allen Robinson, president of the Club, presided at the luncheon.

New members of the club were announced: Edgar J. Easley, Charles R. Henry, Eaton W. Bennett, all of Little Rock, and Allyn R. Power of Hot Springs. Membership certificates and pins were presented to the new members in attendance by the club secretary, Clyde D. Rodgers.

Charles Henry was elected president and Edgar Easley was elected secretary of the club.

Edwina Walls, Librarian-Archivist with the History of Medicine room at the Library of the University of Arkansas for Medical Sciences, gave a presentation on "Arkansas Medical History," with special emphasis on the Robert Watson History of Medicine Room at the University Library.

Those present for the Fifty Year Club luncheon were G. Allen Robinson, Clyde D. Rodgers, Eva Dodge, George W. Dickinson, Edgar J. Easley, Curtis W. Jones, Irving Spitzberg, Charles R. Henry, Henry Hollenberg, Roy I. Millard, Paul S. Read, and Raymond Cook.

PAST PRESIDENTS' BREAKFAST

The Society was host for a breakfast honoring all past presidents of the Society. Attending the breakfast on Wednesday morning were Joe Verser, C. R. Ellis, Joe Norton, Ross Fowler, Stanley Applegate, Robert Watson, Ben Saltzman, George F. Wynne, and Kemal Kutait.

BLUE CROSS-BLUE SHIELD PARTY

Blue Cross-Blue Shield of Arkansas hosted a cocktail reception on Sunday evening of the convention. George Mitchell, president, and members of his staff were present, extending hospitality to members of the Society and guests. The Society expresses its appreciation to Blue Cross-Blue Shield for the party, which always provides a pleasant evening for members of the Society.

WESTERN PARTY

On Monday evening, members dressed in jeans and casual wear for a western party with barbecue. Tables were decorated with bandannas, candles and flowers. A western band, "Steppin' Out," played during dinner and for dancing.

Members of the Jefferson County Medical Society Auxiliary presented an entertaining skit en-

titled "Florence and the Nightingales." The skit was written by Mrs. R. Teryl Brooks and Mrs. Lloyd Langston. Mrs. Brooks was also director, Gail Morscheimer was choreographer, and Martha Owen did the piano accompaniment. Mrs. J. R. Pierce was M.C. for the skit. Others participating were Mrs. Brooks, Mrs. Langston, Mrs. Raymond Irwin, Mrs. Robert Gullett, Mrs. Aubrey Worrell, Mrs. John D. Dedman, Mrs. Clarence Rittelmeyer, Mrs. James A. Lindsey, Mrs. Ralph Ligon, Mrs. Claude Fendley, Mrs. Henry Rogers, and Mrs. Clyde Campbell.

INAUGURAL CEREMONY

President Kemal Kutait served as master of ceremonies for the Inaugural Ceremony on Tuesday evening of the convention.

The ceremony opened with singing of the National Anthem by Mrs. Ken Lilly of Fort Smith. Invocation was by W. Payton Kolb of Little Rock.

President Kutait welcomed members to the inaugural ceremony and expressed the hope that members would like the new format. He introduced the Executive Committee of the Council and thanked members of the Council who had served during the past year. Voting members of the Council were seated on the stage for the inauguration.

President Kutait recognized the following past presidents of the Society who were in attendance: Joe Verser, C. R. Ellis, Ross Fowler, Stanley Applegate, W. Payton Kolb, and Ben N. Saltzman.

Mrs. Raymond Peeples, President of the Arkansas Medical Society Auxiliary, was introduced. Also recognized were Mrs. C. Herbert Taylor, president-elect of the Auxiliary, and Mrs. Warren C. Boop, immediate past president of the Auxiliary.

President Kutait expressed his appreciation to the physicians who had served on Society committees during his tenure. He praised the work of the convention chairman, Frank Morgan, and his wife, Margaret Ann. Dr. and Mrs. Morgan were applauded by those in attendance.

Dr. Kutait administered the oath of office of president of the Arkansas Medical Society to Purcell Smith, Jr., of Little Rock, and presented the gavel to Dr. Smith.

On behalf of the Society, Dr. Smith presented to Dr. Kutait a plaque of appreciation for his service to the Society as president during 1980-81.

Dr. Smith introduced his family members pres-

ent — his wife, Joan; his daughter Cindy Youngblood and her husband Tom. He mentioned that his son, Purcell, III, and his wife Susan were taking a long-planned trip between the son's completion of medical school requirements and graduation ceremonies so he could not be present.

Dr. Smith's inaugural address appears following this report.

Benediction was by Frank Morgan of North Little Rock.

COUNCIL RECEPTION

Dr. and Mrs. Purcell Smith, Jr., Dr. and Mrs. Kemal Kutait, Dr. and Mrs. John P. Burge, and Dr. and Mrs. Elvin Shuffield formed a receiving line for the Council-hosted reception following the inaugural ceremony.

The reception featured foods representative of Hawaii, Mexico, the South, and New England.

REGISTRATION FIGURES

105th Annual Session

Physicians	381
Medical Students, Medical Assistants	5
Scientific Exhibitors	22
Commercial Exhibitors	155
Others	28
Total	588
Auxiliary Registration	135

INAUGURAL ADDRESS

I would like to visit with you a few minutes about some concerns I have regarding our health care system and particularly the private practice of medicine. My concern is not with the quality of that care, but the costs and the rate of increase of the costs. My immediate concern is not so much with the Federal government as with business and industry. Some new initials are coming on the health care scene — not HEW, HHS, or FDA — but GMC, AT&T, RCA, and IBM. There is increasing concern in business and industry about health care costs — and justifiably so. In the next twelve months, business and industry will pay approximately 60 billion dollars in health care expenses; this is up from a little over 40 billion dollars three years ago. AT&T alone paid over 1 billion dollars, and finds the costs increasing at 15-30% a year. General Motors paid 750 million dollars, Chrysler and Ford each paid about 500 million dollars, and dozens of corporations were out over 100 million dollars. Health care costs are the most expensive fringe benefit for most corporations — this is probably true in

your own office, as it is in mine. We are familiar with the saying that "he who pays the piper, calls the tune." Business and industry are paying the piper and wanting more input into naming the tune. Business coalitions are springing up around the country, addressing health care costs, and unfortunately medical societies are not represented in most of these.

About 21½ years ago, AMA recognized this situation and began its corporate visitation program. This program brought together key AMA officers and leaders of major business organizations, to discuss the rising cost of medical care and related subjects. By the end of 1980, AMA officials had met with over 500 corporate executives from 100 of the Fortune 500 corporations. From these visits, AMA learned a number of interesting observations from the corporate executives: (1) there is little concern about physicians' fees — in general, these are not felt to be excessive; (2) there *is general* concern that the physician is unaware of his effect on corporate profits — they feel that the physician does not understand that, though he personally gets only about 11% of the health care dollar, he controls the expenditure of 85-100% of it. To them, the physician is one of the keys to cost containment, through his practice patterns; (3) corporate executives feel hospitals should run like business corporations, keeping costs and prices to a minimum and operating efficiently; (4) corporations have made little effort to correct abuses in their health benefit plans — they don't know how to go about it, they fear union reaction, and they feel they are caught between labor and government, between employee and physician; (5) use and abuse of sick leave is a major concern, with the feeling that physicians are too free with authorizations to be off work; (6) business and industry are convinced incentives have to be found for employees, unions, hospitals, and physicians, to encourage cost consciousness; (7) HMO's and IPA's to them represent a viable option in providing a competitive free market climate for delivery of health care — they do not necessarily feel HMO's are the best system of health care, but would like to see them succeed and thus save them money; (8) they realize that first dollar coverage tends to increase costs, and would like to turn back the clock to co-pay situations; they feel this will be very difficult to do, but is a possibility in situations such as elective surgery; (9) and very important, all the

corporate officers visited felt that National Health Insurance would be a national disaster — they are too familiar with federal regulation and federal programs, and feel the government would "foul up that, too."

Both AMA and the corporate officers considered this corporate visitation program highly successful as a means of communication: corporations were able to make organized medicine aware of its concerns, and AMA enhanced its image with business and industry for having made the effort.

Subsequently AMA House of Delegates passed a resolution encouraging state and county medical societies to launch a similar program, aimed at forming business-medicine coalitions to look at local health care problems. There were fourteen such business-medicine coalitions in existence at the end of 1980, with twenty more in various stages of planning — such as the state medical societies of Wisconsin, Kentucky, Maryland, and South Carolina; and county societies in Birmingham, Alabama; Nashville, Tennessee, and Tampa, Florida. AMA staff is available for advice and assistance in such a program.

Polls show that while a preponderance of the public is satisfied with the care it receives (85% in a recent poll), virtually everyone is concerned about the cost of delivery of health care and the rate of increase in costs. Six months ago, when President Reagan was elected, there was a feeling that "all is well" — it was easy to support him if you felt government had gotten too big, that the budget was out of control, and that taxes were too high. Business and industry have the ear of the President — he is dedicated to making U. S. industry competitive again, with less regulation and better corporate profits. So business has a powerful ally in the White House regarding their medical care costs.

The Administration and several prominent members of Congress have expressed support for "new mechanisms that will soon be offered to effectively restrain the rate of growth in health care costs." Under these so-called pro-competition proposals, sponsors of insurance plans (such as large corporations) would exercise their purchasing power to control the selection of providers and facilities through special arrangements with them. Availability of care would be governed by such arrangements. Controls would be established to limit costs. Competitive advantage would be sought through provider contracts, closed panels,

negotiated fee schedules, and greater reliance on large group practices.

We have a powerful ally in business — it is more philosophically attuned to our position than is organized labor, but we must recognize their problems. President Reagan and industry have bought the GMENAC report — they feel there is a surplus of physicians and of hospital beds, and that this contributes to health care costs. Winds are blowing, that though we may not entirely agree with them, Arkansas physicians and Arkansas Medical Society would ignore at their own risk.

Health care costs now represent about 8.5% - 9% of GNP — no one knows whether this is the right percent, or too high or too low. In addressing this subject, Dr. Robert Hunter, AMA president, pointed out that medicine has confronted three separate crises in this century. The first was related to the quality of medical care, delineated by the Flexner report in 1908, and corrected by upgrading medical training. The second, following World War II, was one of access — this was addressed by an expansion of medical schools and the Hill-Burton program for expansion of hospital facilities. Solution of those crises has contributed to the third crisis, the cost of medical care. The cost of care goes up in response to increase in quality and access. This was brought home dramatically to Arkansas Blue Cross and Blue Shield in 1980 when their benefit payments exceeded income by almost 7 million dollars. The increased premiums necessary to make up this deficit will be paid in large part by businesses in Arkansas. If insurance premiums through BC-BS and private insurers become more than business and individuals can pay, the private practice of medicine will suffer. Dr. Durwood Bradley, president of Jefferson County Medical Society in Alabama, made the rather succinct appraisal that “those who wish to preserve the system of traditional medical practice must see that it does not price itself out of the market place.”

We are all aware that health care costs are not the only costs that are increasing for the twelve month period ending in February. Physicians charges increased by 10.6% (is that bad? compared to what); the all services index increased 13.0%; the all items index increased 11.3%; hospital room charges increased 13.6%. If I appear to be picking on the hospitals, I will remind you

of bank robber Willie Sutton's answer to the question why he kept robbing banks. His answer, “Because that's where the money is.” In health care costs, the hospital is “where the money is.” But, to a large extent, I am picking on myself — it is I who puts the patient in the hospital and decides what tests and treatment will be done.

Your president does not have a large hospital practice (it is the nature of allergy practice); in a diligent effort to learn more about the problems of hospitals, I have spared no effort in achieving better communication — I spend every night with a hospital employee (the same employee); when one is the dependent of a hospital employee, he must choose his words carefully. Hospitals do have unique problems — we and the public expect them to be able to handle the totally unexpected situations such as several persons injured by gunshot wounds, the two-car collision, the construction accident, the victims of fire or tornado. Still we expect them to be efficient and cost-effective in day-to-day operation. This a very difficult assignment — business and industry must realize this. Four weeks ago, our nation was shocked and stunned by the attempt on the life of our President. But as a physician, I am proud of the care he and his associates received at George Washington Hospital. A source of even greater pride is the knowledge that if you or I (or Ronald Jones or Ronald Smith) had been inadvertently shot and taken to George Washington Hospital emergency room, the care would have been essentially the same. No one would want to do anything that would lower the quality of this care; but there are unavoidable expenses in this quality of care.

In conclusion, what are some of the possibilities that could be explored in an effort to control health care costs? (1) Efforts to shorten hospital stay — two Cincinnati hospitals (one a 500 bed hospital and one a 300 bed hospital) have a pilot program directed toward release of patients one day early with certain uncomplicated medical, surgical and psychiatric diagnoses — among the diagnoses and procedures selected were hypertension, asthma, GI bleeding, hysterectomy, and depressive psychoses and neuroses. Blue Cross and eight private insurers have agreed to pay for after-care procedures performed within one week after discharge. In return, the insurers are supplied with quarterly data concerning diagnoses and lengths of stay. In the first six months, 1,300

hospital days were saved. (2) Co-pay or deductibles for elective surgery. (3) More out-patient surgery. (4) Pre-admission laboratory tests. (5) Upgrading of home health care facilities. (6) Efforts to eliminate unnecessary laboratory tests. And (7) consideration of formation of a business-medicine coalition involving Arkansas

Medical Society to explore the above possibilities, and others.

I thank you for listening to my concerns — I do not like to worry alone. I have wondered if this is “opening a can of worms” — but I fear the can is open, the worms are crawling out, and a bigger can does not seem to be the answer.



OFFICERS OF THE ARKANSAS MEDICAL SOCIETY 1981-1982

President.....	Purcell Smith, Jr., P. O. Box 5675, Little Rock 72215
President-elect.....	Morriss M. Henry, P. O. Box 1727, Fayetteville 72701
First Vice President.....	Frank E. Morgan, 410 Pershing Blvd., No. Little Rock 72114
Second Vice President.....	Harold D. Purdy, 6924 Geyer Springs Rd., Little Rock 72209
Third Vice President.....	Paul A. Wallick, 906 Roberts Drive, Monticello 71655
Secretary.....	Elvin Shuffield, 2 Valley Club Circle, Little Rock 72212
Treasurer.....	James M. Kolb, Jr., 305 Skyline Dr., Russellville 72801
Speaker, House of Delegates.....	Amail Chudy, 1801 Maple, North Little Rock 72114
Vice Speaker of House.....	W. P. Phillips, P. O. Box 3507, Fort Smith 72913
Journal Editor.....	Alfred Kahn, Jr., 1300 West Sixth, Little Rock 72201
Delegates to AMA.....	Joe Verser, P. O. Box 106, Harrisburg 72432
	T. E. Townsend, 1420 West 43rd, Pine Bluff 71603
Alternates.....	A. E. Andrews, P. O. Box 689, Texarkana 75501
1980-81.....	Richard N. Pearson, 1223 West Walnut, Rogers 72756
1982-83.....	W. Payton Kolb, 230 Medical Towers Bldg., Little Rock 72205
Executive Vice President	C. C. Long, P. O. Box 1208, Fort Smith 72902

EXECUTIVE COMMITTEE OF THE COUNCIL

Chairman of the Council.....	John P. Burge, Lake Village Clinic, Lake Village 71653
President.....	Purcell Smith, Jr., P. O. Box 5675, Little Rock 72215
President-elect.....	Morriss M. Henry, P. O. Box 1727, Fayetteville 72701
Secretary.....	Elvin Shuffield, 2 Valley Club Circle, Little Rock 72212

COUNCILORS

Dis- trict	Councilor Term Expires 1982	Councilor Term Expires 1983	Counties in District
1.	Asa A. Crow #1 Medical Drive Paragould 72450	*Merrill J. Osborne 1533 North 10th Blytheville 72315	Clay, Craighead, Crittenden, Fulton, Greene, Lawrence, Mississippi, Poinsett, Randolph, and Sharp
2.	*John E. Bell 1300 South Main Searcy 72143	Jim E. Lytle P. O. Box 2116 Batesville 72501	Cleburne, Conway, Faulkner, Independence, Izard, Jackson, Stone, and White
3.	*L. J. P. Bell 626 Poplar Helena 72342	John Hestir P. O. Drawer 512 DeWitt 72042	Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis and Woodruff
4.	*John P. Burge Lake Village Clinic Lake Village 71653	Lloyd G. Langston 1408 West 43rd Pine Bluff 71603	Ashley, Chicot, Desha, Drew, Jefferson, and Lincoln

5.	Cal R. Sanders P. O. Box 757 Camden 71701	*George Warren P. O. Box "W" Smackover 71762	Bradley, Calhoun, Cleveland, Columbia, Dallas, Ouachita, and Union
6.	*C. Lynn Harris P. O. Box 687 Hope 71801	F. E. Joyce P. O. Box 2763 Texarkana 75501	Hempstead, Howard, Lafayette, Little River, Miller, Nevada, Pike, Polk, and Sevier
7.	*Robert F. McCrary 505 West Grand Hot Springs 71901	C. Randolph Ellis 1004 South Main Malvern 72104	Clark, Garland, Grant, Hot Spring, Montgomery, and Saline
8.	William N. Jones 500 South University Little Rock 72205	*W. Ray Jouett 750 Med. Towers Bldg. Little Rock 72205	Pulaski
9.	*Rhys A. Williams P. O. Box 1118 Harrison 72601	Richard N. Pearson 1223 West Walnut Rogers 72756	Baxter, Benton, Boone, Carroll, Madison, Marion, Newton, Searcy, Van Buren, and Washington
10.	Ken Lilly 1120 Lexington Fort Smith 72901	*Charles F. Wilkins 3105 West Main Place Russellville 72801	Crawford, Franklin, Johnson, Logan, Perry, Pope, Scott, Sebastian, and Yell

*Senior Councilor

1981 OFFICERS—COUNTY MEDICAL SOCIETIES—ARKANSAS MEDICAL SOCIETY

ARKANSAS.....	Pres.—Gerald L. Guyer, Route 1, Box 21-D, Stuttgart 72160 Secy.—Gerald L. Guyer, Route 1, Box 21-D, Stuttgart 72160
ASHLEY.....	Pres.—Donald L. Toon, 315 Alabama, Crossett 71635 Secy.—James D. Rankin, P. O. Box 232, Hamburg 71646
BAXTER.....	Pres.—James S. Beckman, P. O. Box 276, Mountain Home 72653 Secy.—Thomas L. Eans, 126 West Sixth, Mountain Home 72653 Asst. Secy.—Julia Short, 126 West Sixth, Mountain Home 72653
BENTON.....	Pres.—Fay Boozman, III, P. O. Box 1353, Rogers 72756 Secy.—William D. McKnight, P. O. Box 1567, Rogers 72756
BOONE.....	Pres.—Richard M. Kuharich, 651 North Spring, Harrison 72601 Secy.—Don R. Vowell, 224 West Erie, Harrison 72601 Exec. Secy.—Mrs. Richard Kuharich, 651 North Spring, Harrison 72601
BRADLEY.....	Pres.—W. C. Whaley, Jr., 205 East Church, Warren 71671 Secy.—Merl T. Crow, 205 East Church, Warren 71671
CHICOT.....	Pres.—P. Sinlar, 2420 North Highway 65, Eudora 71640 Secy.—Tom Tvedten, Lake Village Clinic, Lake Village 71653
CLARK.....	Pres.—R. Jerry Mann, 416 Main, Arkadelphia 71923 Secy.—George R. Peeples, 305 East Main, Gurdon 71743
CLEBURNE.....	Pres.—Stephen K. Blackburn, 421 South Seventh, Heber Springs 72543 Secy.—Wesley J. Ashabranner, 401 Searcy, Heber Springs 72543
COLUMBIA.....	Pres.—John M. Farmer, 104 East Columbia, Magnolia 71753 Secy.—Robert W. Hunter, 2602 Crestview, Magnolia 71753
CONWAY.....	Pres.—Thomas L. Buchanan, 200 South Moose, Morrilton 72110 Secy.—Keith Lipsmeyer, P. O. Box 677, Morrilton 72110
CRAIGHEAD-POINSETT.....	Pres.—Robert O. Lawrence, 417 East Matthews, Jonesboro 72401 Secy.—Fred J. George, 1916 East Matthews, Jonesboro 72401
CRAWFORD.....	Pres.—Kevin P. Crowley, P. O. Box 664, Van Buren 72956 Secy.—F. E. Shearer, P. O. Box 458, Alma 72921
CRITTENDEN.....	Pres.—W. J. Wright, 210 Shoppingway, Suite A, West Memphis 72301 Secy.—Keith B. Kennedy, 316 Tyler, West Memphis 72301
CROSS.....	Pres.—Vance J. Crain, P. O. Box 158, Wynne 72396 Secy.—Robert D. Bethell, P. O. Box 158, Wynne 72396

PROCEEDINGS

DALLAS	Pres.—John H. Delamore, P. O. Box 351, Fordyce 71742 Secy.—Hugh A. Nutt, 110 North Clifton, Fordyce 71742
DESHA	Pres.—Guy U. Robinson, 207 South Elm, Dumas 71639 Secy.—Howard R. Harris, 207 South Elm, Dumas 71639
DREW	Pres.—A. K. Busby, 733 Roberts Drive, Monticello 71655 Secy.—Paul A. Wallick, 906 Roberts Drive, Monticello 71655 Asst. Secy.—Betty Evans, P. O. Box 538, Monticello 71655
FAULKNER	Pres.—Bob G. Banister, 923 Parkway, Conway 72032 Secy.—Bob G. Banister, 923 Parkway, Conway 72032
FRANKLIN	Pres.—David L. Gibbons, P. O. Box 136, Ozark 72949 Secy.—(Vacancy)
FULTON, IZARD, SHARP	Pres.—A. Meryl Grasse, P. O. Box 438, Calico Rock 72519 Secy.—Lewis G. Allen, Eastern Ozarks Community Hospital, Hardy 72542
GARLAND	Pres.—John Simpson, 328 Quapaw, Hot Springs 71901 Secy.—Robert F. McCrary, 505 West Grand, Hot Springs 71901 Asst. Secy.—Mary Payne, 911 West Grand, Hot Springs 71901
GRANT	Pres.—Clyde D. Paulk, P. O. Box 307, Sheridan 72150 Secy.—Clyde D. Paulk, P. O. Box 307, Sheridan 72150
GREENE-CLAY	Pres.—Darrell Bonner, 1015 West Kingshighway, Paragould 72450 Secy.—Vern Ann Shotts, 1015 West Kingshighway, Paragould 72450
HEMPSTEAD	Pres.—Lowell O. Harris, P. O. Box 550, Hope 71801 Secy.—Asa M. Warmack, 405 West 16th, Hope 71801
HOT SPRING	Pres.—John A. Vaughan, 115 East Highland, Malvern 72104 Secy.—Robert H. White, 1004 Dyer, Malvern 72104
HOWARD-PIKE	Pres.—Joe D. King, P. O. Box 549, Nashville 71852 Secy.—Samuel W. Peebles, 120 West Sybert, Nashville 71852
INDEPENDENCE	Pres.—Samuel Turner, 3103 Alice Drive, Batesville 72501 Secy.—John R. Baker, P. O. Box 2116, Batesville 72501
JACKSON	Pres.—(Vacancy) Secy.—John D. Ashley, Second and Laurel, Newport 72112
JEFFERSON	Pres.—C. M. Rittelmeyer, 1716 West 42nd, Pine Bluff 71603 Secy.—Horace L. Green, 1420 West 43rd, Pine Bluff 71603 Asst. Secy.—Maggi Wadsworth, 1515 West 42nd, Pine Bluff 71603
JOHNSON	Pres.—Guy Shrigley, P. O. Box 70, Clarksville 72830 Secy.—John R. McAuley, P. O. Box 668, Clarksville 72830
LAFAYETTE	Pres.—Craig E. Ditsch, P. O. Box 276, Stamps 71860 Secy.—Craig E. Ditsch, P. O. Box 276, Stamps 71860
LAWRENCE	Pres.—Joe E. Hughes, P. O. Box 150, Walnut Ridge 72476 Secy.—J. B. Elders, 321 Southwest Third, Walnut Ridge 72476
LEE	Pres.—Dwight W. Gray, 110 West Chestnut, Marianna 72360 Secy.—E. C. Fields, 77 West Main, Marianna 72360
LITTLE RIVER	Pres.—Joe G. Shelton, Jr., P. O. Box 397, Ashdown 71822 Secy.—Myra M. Gillean, Second and Main, Ashdown 71822
LOGAN	Pres.—William J. Roberts, 114 West Fourth, Booneville 72927 Secy.—James T. Smith, P. O. Box 286, Paris 72855
LONOKE	Pres.—Arthur W. Camp, P. O. Box 547, England 72046 Secy.—Byron E. Holmes, 305 West Front, Lonoke 72086
MILLER	Pres.—Fred Hutcheson, Jr., 300 East Sixth, Texarkana 75502 Secy.—Jerry Stringfellow, 1205 East 35th, Texarkana 75501 Exec. Secy.—Arlene Rushan, P. O. Box 1843, Texarkana 75501
MISSISSIPPI	Pres.—Joseph V. Jones, 527 North Sixth, Blytheville 72315 Secy.—Eldon Fairley, P. O. Box 68, Osceola 72370

PROCEEDINGS

MONROE.....	Pres.—J. P. Williams, Jr., 127 South New Orleans, Brinkley 72021 Secy.—N. C. David, 108 West Ash, Brinkley 72021
NEVADA.....	Pres.—Richard P. Portis, P. O. Box 442, Prescott 71857 Secy.—Michael C. Young, P. O. Box 442, Prescott 71857
OUACHITA.....	Pres.—Robert Nunnally, P. O. Box 757, Camden 71701 Secy.—L. V. Ozment, P. O. Box 757, Camden 71701
PHILLIPS.....	Pres.—William T. Paine, 661 Oakland, Helena 72342 Secy.—L. J. Pat Bell, 626 Poplar, Helena 72342
POLK.....	Pres.—(Vacancy) Secy.—James P. Bell, 608 Hickory, Mena 71953
POPE.....	Pres.—James M. Carter, 3105 West Main Place, Russellville 72801 Secy.—W. E. King, 3105 West Main Place, Russellville 72801
PULASKI.....	Pres.—Ray Jouett, 750 Medical Towers Building, Little Rock 72205 Secy.—Harold Purdy, 6924 Geyer Springs Road, Little Rock 72209 Exec. Secy.—Paul Harris, 500 South University, #311, Little Rock 72205
RANDOLPH.....	Pres.—Danny B. Holt, 110 West Broadway, Pocahontas 72455 Secy.—Andrew Jansen, 110 West Broadway, Pocahontas 72455
SALINE.....	Pres.—Ralph D. Cash, 105 McNeil, Benton 72015 Secy.—Sam D. Taggart, P. O. Box 969, Benton 72015 Asst. Secy.—Carla Major, A.R.T., Northeast at McNeil, Benton 72015
SCOTT.....	Pres.—Harold B. Wright, P. O. Box 249, Waldron 72958 Secy.—Harold B. Wright, P. O. Box 249, Waldron 72958
SEBASTIAN.....	Pres.—A. C. Bradford, P. O. Box 3528, Fort Smith 72913 Secy.—R. Gene Girkin, 922 Lexington, Fort Smith 72901 Asst. Secy.—Betty Stipsky, 4417 South 30th, Fort Smith 72901
SEVIER.....	Pres.—Frank Daniel, DeQueen Clinic, DeQueen 71832 Secy.—Joseph B. Pierce, P. O. Drawer 890, DeQueen 71832 Exec. Secy.—Jim E. Pearce, Highway 70, West, DeQueen 71832
ST. FRANCIS.....	Pres.—(Vacancy) Secy.—Christopher J. Woollam, 318 East Cook, Forrest City 72335
UNION.....	Pres.—R. Duke Jennings, 443 West Oak, El Dorado 71730 Secy.—Raymond N. Bowman, 619 North Newton, El Dorado 71730
VAN BUREN.....	Pres.—Syed Z. Tahir, P. O. Box 521, Clinton 72031 Secy.—John A. Hall, P. O. Box 310, Clinton 72031
WASHINGTON.....	Pres.—W. Ely Brooks, Route 9, Box 219, Fayetteville 72701 Secy.—James A. Capps, 1215 South Thompson, Springdale 72764
WHITE.....	Pres.—Porter R. Rodgers, Jr., P. O. Box 159, Searcy 72143 Secy.—Hugh R. Edwards, 1300 South Main, Searcy 72143
WOODRUFF.....	Pres.—Fred E. Wilson, P. O. Box 387, McCrory 72101 Secy.—James E. Rowe, P. O. Box 387, McCrory 72101
YELL.....	Pres.—Damon Martin, P. O. Box 328, Ola 72853 Secy.—Jerry F. Hodges, P. O. Box 337, Dardanelle 72834



COMMITTEES—ARKANSAS MEDICAL SOCIETY—1981-1982

	Term Expires		Term Expires
COMMITTEE ON CANCER CONTROL		SUB-COMMITTEE ON MATERNAL AND CHILD WELFARE	
Herbert B. Wren, P. O. Box 1409, Texarkana 75501	1982	E. A. Shaneyfelt, P. O. Box 630, Manila 72442	1982
Jean C. Gladden, P. O. Box 1118, Harrison 72601	1982	R. Kingsley Bost, 3105 West Main Place, Russellville 72801 — <i>CHAIRMAN</i>	1983
Arthur E. Squire, Jr., 10001 Lile Drive, Little Rock 72205	1983	Robert W. Arrington, 1721 Maryland, Little Rock 72202	1983
John R. Broadwater, 1500 Dodson, Fort Smith 72901 — <i>CHAIRMAN</i>	1983	Virgil L. Hayden, 1706 West 42nd, Pine Bluff 71603	1984
Robert Bransford, 300 East Sixth, Texarkana 75502	1984	SUB-COMMITTEE ON TUBERCULOSIS	
David Barclay, 500 South University, Little Rock 72205	1984	Wade A. Hart, Route 4, Box 327, Blytheville 72315	1982
COMMITTEE ON MEDICAL LEGISLATION		Jerry R. Stewart, P. O. Box 3528, Fort Smith 72913	1982
John E. Bell, 1300 South Main, Searcy 72143	1982	John C. Schultzt, 10001 Lile Drive, Little Rock 72205	1983
F. E. Joyce, P. O. Box 2763, Texarkana 75503	1982	Donald L. Miller, 1515 West 42nd, Pine Bluff 71603 — <i>CHAIRMAN</i>	1983
Robert McCrary, 505 West Grand, Hot Springs 71901	1982	Jim C. Citty, 2900 Hawkins Drive, Searcy 72143	1984
Morris M. Henry, P. O. Box 1727, Fayetteville 72701	1983	Lawrence C. Price, 404 South 16th, Fort Smith 72901	1984
James L. Maupin, P. O. Box 337, Dardanelle 72834	1983	COMMITTEE ON AGING	
Donald L. Toon, 315 North Alabama, Crossett 71635	1983	Chalmers S. Pool, 3925 North Lookout, Little Rock 72205 — <i>CHAIRMAN</i>	1982
James R. Weber, P. O. Box 188, Jacksonville 72076 — <i>CHAIRMAN</i>	1984	Charles W. Bailey, P. O. Box 426, Greenwood 72936	1982
Joe Verser, P. O. Box 106, Harrisburg 72432	1984	John F. Guenthner, 126 West Sixth, Mountain Home 72653	1983
Boyce West, P. O. Box 220, Clarksville 72830	1984	Henry V. Kirby, 651 North Spring, Harrison 72601	1983
SUB-COMMITTEE ON NATIONAL LEGISLATION		Woodbridge Morris, 8 Blue Ridge Circle, Little Rock 72207	1984
W. P. Phillips, P. O. Box 3507, Fort Smith 72913 — <i>CHAIRMAN</i>	1982	SUB-COMMITTEE ON PHYSICAL FITNESS AND SCHOOL HEALTH	
W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205	1983	Clarence E. Ballard, Jr., 250 Doctors Park Bldg., Little Rock 72205	1982
George W. Warren, P. O. Box W, Smackover 71762	1983	Rex N. Moore, P. O. Box 459, Jacksonville 72076	1982
Richard N. Pearson, 1223 West Walnut Rogers 72756	1984	Tom P. Coker, P. O. Drawer 1608, Fayetteville 72701 — <i>CHAIRMAN</i>	1983
James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801	1984	John H. Delamore, P. O. Box 351, Fordyce 71742	1983
COMMITTEE ON PUBLIC HEALTH		W. John Giller, Jr., 705 West Faulkner, El Dorado 71730	1984
Ben N. Saltzman, 4815 West Markham, Little Rock 72205	1982	SUB-COMMITTEE ON INDUSTRIAL HEALTH	
Ruth C. Steinkamp, 409 Fairfax Avenue, Little Rock 72205	1982	Henry W. Keisker, Jr., 505 East Matthews, Jonesboro 72401	1982
T. E. Townsend, 1420 West 43rd, Pine Bluff 71603	1983	Michael C. Reese, 1110 West Elm, Rogers 72756	1982
A. E. Andrews, P. O. Box 689, Texarkana 75501	1983	James R. Weber, P. O. Box 188, Jacksonville 72076	1983
A. Samuel Koenig, III, 922 Lexington, Fort Smith 72901	1983	Howard M. Armstrong, 340 Doctors Park Bldg., Little Rock 72205 — <i>CHAIRMAN</i>	1983
William C. Whaley, Jr., 205 East Church, Warren 71671 — <i>CHAIRMAN</i>	1984	I. Leighton Millard, P. O. Box 5270, Little Rock 72215	1984
Wilbur G. Lawson, 207 East Dickson, Fayetteville 72701	1984		

PROCEEDINGS

	Term Expires		Term Expires
Howard Schwander, 320 Doctors Park Bldg., Little Rock 72205	1984	W. Ray Jouett, 750 Medical Towers Building, Little Rock 72205	1984
COMMITTEE ON MENTAL HEALTH		Thomas M. Durham, Jr., 505 West Grand, Hot Springs 71901	1984
David D. Fried, Northside Shopping Center, Mena 71953	1982	COMMITTEE ON CONTINUING MEDICAL EDUCATION	
Randolph Murphy, 4601 West Markham, Little Rock 72205	1982	John M. Hestir, P. O. Drawer 512, DeWitt 72042 — <i>CHAIRMAN</i>	1982
Henry H. Good, #1 St. Vincent Circle, Little Rock 72205	1982	Jerry C. Holton, 500 South University, Little Rock 72205	1982
A. Pat Chambers, 1500 Dodson, Fort Smith 72901	1983	Lee B. Parker, Jr., 241 West Spring, Fayetteville 72701	1983
John B. Simpson, 328 Quapaw, Hot Springs 71901	1983	Thomas A. Bruce, 4301 West Markham, Little Rock 72201	1983
Aubrey C. Smith, #1 St. Vincent Circle, Little Rock 72205	1984	Taylor A. Prewitt, P. O. Box 3528, Fort Smith 72913	1983
W. Payton Kolb, 230 Medical Towers Bldg., Little Rock 72205 — <i>CHAIRMAN</i>	1984	Sybil Hart, Route 4, Box 327, Blytheville 72315	1984
William Joe James, P. O. Box 1019, Pine Bluff 71613	1984	Tom Bell, P. O. Box 1116, Harrison 72601	1984
IMMUNIZATION SUB-COMMITTEE		COMMITTEE ON HOSPITALS	
Betty Lowe, 804 Wolfe Street, Little Rock 72201 — <i>CHAIRMAN</i>	1982	Robert B. Benafield, P. O. Box 2181, Little Rock 72203	1982
Jon D. Hall, 300 East Sixth, Texarkana 75501	1982	G. Max Thorn, St. Vincent Infirmary, Little Rock 72201 — <i>CHAIRMAN</i>	1982
James M. Post, 617 South 16th, Fort Smith 72901	1983	Evans Z. Hornberger, Jr., 1311 South "I", Fort Smith 72901	1983
Horace L. Green, 1420 West 43rd, Pine Bluff 71603	1984	Paul L. Rogers, 1501 South Waldron, Fort Smith 72903	1983
Henry B. Rogers, 209 Thompson, El Dorado 71730	1984	Paul N. Means, 1150 Medical Towers Bldg., Little Rock 72205	1984
Daniel C. McKinney, 1420 West 43rd, Pine Bluff 71603	1984	John D. Wright, 321 Short Street, Benton 72015	1984
SUB-COMMITTEE ON TRAFFIC SAFETY		COMMITTEE ON PUBLIC RELATIONS	
Carl L. Williams, 522 South 16th, Fort Smith 72901 — <i>CHAIRMAN</i>	1982	T. E. Townsend, 1420 West 43rd, Pine Bluff 71603	1982
Albert D. MacDade, 1500 Dodson, Fort Smith 72901	1983	Raymond V. Biondo, P. O. Box 921, North Little Rock 72115	1982
James G. Stuckey, Jr., 500 South University, Little Rock 72205	1984	Charles Logan, 500 South University, Little Rock 72205	1982
H. Austin Grimes, P. O. Box 5270, Little Rock 72215	1984	Milton D. Deneke, P. O. Box 687, West Memphis 72301 — <i>CHAIRMAN</i>	1983
Thomas A. Pullig, 805 North Jackson, Magnolia 71753	1984	Ronald J. Bracken, 505 West Grand, Hot Springs 71901	1983
George V. Roberson, Jr., 1801 West 40th, Pine Bluff 71603	1984	A. C. Bradford, P. O. Box 3528, Fort Smith 72913	1984
SUB-COMMITTEE ON LIAISON WITH VOCATIONAL REHABILITATION		W. Ray Jouett, 750 Medical Towers Building, Little Rock 72205	1984
John P. Wood, 907 Mena Street, Mena 71953	1982	SUB-COMMITTEE ON LIAISON WITH THE AUXILIARY	
Karlton H. Kemp, 408 Hazel, Texarkana 75502	1982	Raymond Peebles, 310 Park, Hot Springs 71901 — <i>CHAIRMAN</i>	1982
Charles E. Tommey, 412 North Washington, El Dorado 71730	1983	C. Herbert Taylor, 228 Tyler, West Memphis 72301	1982
Robert D. Miller, Jr., 616 Elm Street, Helena 72342 — <i>CHAIRMAN</i>	1983	Robert McCrary, 505 West Grand, Hot Springs 71901	1982
Jim E. Lytle, P. O. Box 2116, Batesville 72501	1983	T. E. Townsend, 1420 West 43rd, Pine Bluff 71603	1982

PROCEEDINGS

	Term Expires		Term Expires
SUB-COMMITTEE ON STATE HEALTH AND MEDICAL RESOURCES FOR CIVIL DEFENSE		Ken Lilly, 1120 Lexington, Fort Smith 72901	1982
Glenn V. Dalrymple, 1100 Medical Towers Bldg., Little Rock 72205	1982	J. Larry Lawson, #1 Medical Drive Paragould 72450	1982
Neil E. Crow, 1500 Dodson Fort Smith 72901	1983	R. W. Ross, 1120 Lexington, Fort Smith 72901	1983
Robert M. Stainton, 300 East Roosevelt Road, Little Rock 72206	1983	Frank E. Morgan, 410 Pershing Boulevard, North Little Rock 72114	1983
Guy U. Robinson, 207 South Elm, Dumas 71639 — <i>CHAIRMAN</i>	1983	John M. Hestir, P. O. Drawer 512, DeWitt 72042	1983
Boyd M. Saviers, 1500 Dodson, Fort Smith 72901	1983	C. Lynn Harris, P. O. Box 687, Hope 71801	1983
Alvin Strauss, Jr., 1026 Donaghey Building, Little Rock 72201	1984	Paul A. Wallick, 906 Roberts Drive, Monticello 71655 — <i>CHAIRMAN</i>	1983
ADVISORY COMMITTEE TO THE MEDICAL ASSISTANTS SOCIETY		Thomas A. Bruce, 4301 West Markham, Little Rock 72201	1984
Jack J. Sternberg, 500 South University, Little Rock 72205	1982	Kelsy Caplinger, 11215 Hermitage Road, Little Rock 72211	1984
James D. Mashburn, 207 East Dickson, Fayetteville 72701	1983	John H. Delamore, P. O. Box 351, Fordyce 71742	1984
C. W. Jackson, P. O. Box C, Judsonia 72081	1983		
Jerry C. Holton, 500 South University, Little Rock 72205 — <i>CHAIRMAN</i>	1983	COUNCIL COMMITTEES	
T. E. Townsend, 1420 West 43rd, Pine Bluff 71603	1984	PHYSICIAN-NURSE JOINT PRACTICE COMMITTEE	
COMMITTEE ON INSURANCE		Jerry Holton, 500 South University, Little Rock 72205 — <i>CHAIRMAN</i>	
Francis Wilson, 505 East Matthews, Jonesboro 72401	1982	A. T. Gillespie, 500 South University, Little Rock 72205	
Guy Farris, 6213 Lee Avenue, Little Rock 72205	1982	Charles E. Tommey, 412 North Washington, El Dorado 71730	
Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801 — <i>CHAIRMAN</i>	1983	Guy R. Farris, Jr., 6213 Lee Avenue, Little Rock 72205	
David D. Fried, Northside Shopping Center, Mena 71953	1983	Kemal Kutait, 1120 Lexington, Fort Smith 72901	
Banks Blackwell, P. O. Box 1406, Pine Bluff 71613	1984	Charles W. Logan, 500 South University, Little Rock 72205	
Carl Wilson, 1500 Dodson, Fort Smith 72901	1984	COMMITTEE ON CONSTITUTIONAL REVISION	
COMMITTEE ON MEDICINE AND RELIGION		A. S. Koenig, Jr., 922 Lexington, Fort Smith 72901 — <i>CHAIRMAN</i>	
Charles G. Swingle, P. O. Box 267, Marked Tree 72365	1982	J. Warren Murry, P. O. Drawer "A", Fayetteville 72701	
Norman K. Smith, 107 Van Bibber, Pocahontas 72455	1982	Nathan L. Poff, P. O. Box 1111, Heber Springs 72543	
Fred O. Henker, III, 4301 West Markham, Little Rock 72201 — <i>CHAIRMAN</i>	1983	BUDGET COMMITTEE	
Walter H. O'Neal, 9600 West 12th, Little Rock 72201	1983		Term Expires Dec. 31
C. R. Ellis, 1004 South Main, Malvern 72104	1984	William N. Jones, 500 South University, Little Rock 72205 — <i>CHAIRMAN</i>	1981
Randolph Murphy, 4601 West Markham, Little Rock 72205	1984	Rhys A. Williams, P. O. Box 1118, Harrison 72601	1982
George Schroeder, 260 Doctors Park Bldg., Little Rock 72205	1984	Asa A. Crow, #1 Medical Drive, Paragould 72450	1983
Milton D. Deneke, P. O. Box 687, West Memphis 72301	1984	John M. Hestir, P. O. Drawer 512, DeWitt 72042	1984
COMMITTEE ON ARRANGEMENTS FOR ANNUAL SESSION		James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801	Automatic as Treasurer
Richard O. Martin, P. O. Box 339, Paragould 72450	1982	LIAISON COMMITTEE WITH STATE WELFARE DEPARTMENT (Composed of Executive Committee)	

MEDICAL SCHOOL COMMITTEE

James L. Gardner, 125 Greenwood,
Hot Springs 71901 — *CHAIRMAN*
Kemal Kutait, 1120 Lexington,
Fort Smith 72901
Boyce West, P. O. Box 220,
Clarksville 72830
Max G. Cheney, P. O. Box 725,
Mountain Home 72653
R. Jerry Mann, 416 Main,
Arkadelphia 71923

AD HOC COMMITTEE ON LIAISON WITH
HEALTH SYSTEMS AGENCIES

Kemal Kutait, 1120 Lexington,
Fort Smith 72901 — *CHAIRMAN*
John Crenshaw, 4201 Mulberry,
Pine Bluff 71603
William Joe James, P. O. Box 1019,
Pine Bluff 71613
Malcolm Moore, 500 South University,
Little Rock 72205
James Guthrie, P. O. Box 757,
Camden 71701
Kenneth R. Duzan, 443 West Oak,
El Dorado 71730
Bob G. Banister, 933 Parkway,
Conway 72032
Roger B. Bost, 4301 West Markham, Slot 599,
Little Rock 72201
Warren M. Douglas, 260 Medical Towers Building,
Little Rock 72205
Willie R. Harris, P. O. Box 40,
England 72046
W. Payton Kolb, 230 Medical Towers Building,
Little Rock 72205
Gordon P. Oates, 1700 West 13th,
Little Rock 72202
James M. Stalker, P. O. Box 2575,
Batesville 72501
Robert E. Elliott, 1300 South Main,
Searcy 72143
Jean C. Gladden, Post Office Box 1118,
Harrison 72601

A. S. Koenig, Jr., 922 Lexington,
Fort Smith 72901
Don B. Vollman, 411 East Matthews,
Jonesboro 72401
Mary W. Hughes, 1001 Main,
Texarkana 75501

REPRESENTATIVES TO THE COST
CONTAINMENT COMMITTEE

W. Martin Eisele, 101 Whittington,
Hot Springs 71901
James Weber, P. O. Box 188,
Jacksonville 72076
Glenn Dalrymple, 1100 Medical Towers Building,
Little Rock 72205

REORGANIZATIONAL STUDY COMMITTEE

Kemal Kutait, 1120 Lexington,
Fort Smith 72901 — *CHAIRMAN*
T. E. Townsend, 1420 West 43rd,
Pine Bluff 71603
William N. Jones, 500 South University,
Little Rock 72205
Rhys A. Williams, P. O. Box 1118,
Harrison 72601
Paul Wallick, 906 Roberts Drive,
Monticello 71655
Forney G. Holt, 300 East Sixth,
Texarkana 75501

BOARD OF TRUSTEES — PENSION PLAN

	Term Expires April
Stanley Applegate, 220 Meadow, Springdale 72764	1982
T. E. Townsend, 1420 West 43rd, Pine Bluff 71603	1983
George F. Wynne, 113 West Cypress, Warren 71671	1984
Kemal Kutait, 1120 Lexington Avenue, Fort Smith 72901	1985
James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801	Automatic as Treasurer



MEDICAL SERVICES REVIEW COMMITTEE

Term Expires April 30	Committee Members (Name and Address)	Specialty Represented	Term Expires April 30	Committee Members (Name and Address)	Specialty Represented
1984	Charles H. Rodgers, 3500 South University, Little Rock 72204	Fam. Pr.	1983	Donald C. Riley, P. O. Box 1647, Russellville 72801	Radiology
1982	George W. Warren, P. O. Box W, Smackover 71762	Fam. Pr.	1984	John D. McConnell, P. O. Box 5507, Little Rock 72215	Pathology
1982	Paul A. Wallick, 906 Roberts Drive, Monticello 71655	Fam. Pr.	1984	Peter J. Irwin, 1500 Dodson, Fort Smith 72901	Orthopedics
1984	J. Presley Jackson, 10001 Lile Drive, Little Rock 72205	Int. Med.	1982	Frederick P. Feder, 520 Lexington, Fort Smith 72901	Urology
1982	Jack L. Blackshear, 650 Medical Towers Bldg., Little Rock 72205	Int. Med.	—	Charles F. Wilkins, Jr., 3105 W. Main Place, Russellville 72801	(Chairman)
1984	J. Larry Lawson, #1 Medical Drive, Paragould 72450	Surgery	—	Purcell Smith, Jr., P. O. Box 5675, Little Rock 72215	(President)
1983	Samuel E. Landrum, 522 South 16th, Fort Smith 72901	Surgery	—	Morris M. Henry, P. O. Box 1727, Fayetteville 72701	(President-elect)
1982	Donald L. Duncan, 300 East 6th, Texarkana, Texas 75502	Surgery	—	H. Elvin Shuffield, 2 Valley Club Circle, Little Rock 72212	(Secretary)
1983	Thomas G. Johnston, P. O. Drawer A, Little Rock 72205	Allergy	—	John P. Burge, Lake Village Clinic, Lake Village 71653	(Council Chairman)
1982	Edwin L. Coffman, 1500 Dodson, Fort Smith 72901	Anes.	SUB-COMMITTEE REPRESENTATIVES (Representatives on call to meet with Committee as needed when claims in specialty field are considered)		
1983	Raymond V. Biondo, P. O. Box 921, North Little Rock 72115	Derm.	Sub-Committee Representative	Sub-Specialty Represented	
1983	James L. Smith, 623 Woodlane, Little Rock 72201	Oph.	Carl L. Williams, 522 South 16th, Fort Smith 72901	Thoracic Surgery	
1983	Lloyd G. Langston, 1408 West 43rd, Pine Bluff 71603	Oto.	Thomas J. Smith, 409 North University, Little Rock 72205	Gastroenterology	
1984	David L. Barclay, 500 South University, Little Rock 72205	Ob-Gyn	Thomas H. Allen, 413 North University, Little Rock 72205	Plastic Surgery	
1982	W. Ray Jouett, 750 Medical Towers Bldg., Little Rock 72205	Neurosurgery	John C. Schultz, 10001 Lile Drive, Little Rock 72205	Pulmonary Dis.	
1982	Aubrey C. Smith, #1 St. Vincent Circle, Little Rock 72205	Psychiatry	Kelsy J. Caplinger, 111, 11215 Hermitage Road, Little Rock 72211	Pediatric Allergy	
1981	Dale D. Briggs, 11125 Hermitage Road, Little Rock 72211	Pediatrics	G. Doyme Williams, #1 St. Vincent Circle, Little Rock 72205	Cardiovascular Surgery	



**PROFESSIONAL RELATIONS COMMITTEE
ARKANSAS MEDICAL SOCIETY**

District	Name of Committee Member	Address
1	B. P. Raney, M.D. T. Murray Ferguson, M.D. Sybil R. Hart, M.D.	403 East Matthews, Jonesboro 72401 200 South Rhodes, West Memphis 72301 P. O. Box 312, Blytheville 72315
2	C. W. Jackson, M.D. Jim Lytle, M.D. Charles F. Wells, M.D.	P. O. Box C, Judsonia 72081 P. O. Box 2116, Batesville 72501 601 South Moose, Morrilton 72110
3	John M. Hestir, M.D. Carl E. Northcutt, M.D. Dwight W. Gray, M.D.	P. O. Drawer 512, DeWitt 72042 Route 1, Box 21-D, Stuttgart 72160 110 West Chestnut, Marianna 72360
4	Howard Harris, M.D. L. R. Turney, M.D. George Roberson, M.D.	207 South Elm, Dumas 71639 101 South Third, McGehee 71654 1801 West 40th, Pine Bluff 71603
5	C. E. Tommey, M.D. L. V. Ozment, M.D. Joe F. Rushton, M.D.	412 North Washington, El Dorado 71730 P. O. Box 757, Camden 71701 219 North Washington, Magnolia 71753
6	Donald Duncan, M.D. James G. Martindale, M.D. James Armstrong, M.D.	300 East Sixth, Texarkana 75502 P. O. Box 861, Hope 71801 P. O. Box 397, Ashdown 71822
7	C. F. Peters, M.D. Robert F. McCrary, M.D. Thomas M. Durham, Jr., M.D.	1420 Potts, Malvern 72104 505 West Grand, Hot Springs 71901 505 West Grand, Hot Springs 71901
8	*Richard M. Logue, M.D. John McCollough Smith, M.D. James R. Rasch, M.D.	601 North University, Little Rock 72205 4000 Woodlawn, Little Rock 72205 10001 Lile Drive, Little Rock 72205
9	Charles A. Ledbetter, M.D. James Y. Massey, M.D. James L. Pickens, M.D.	224 West Erie, Harrison 72601 P. O. Drawer H, Mountain Home 72653 2212 West Walnut, Rogers 72756
10	Samuel Landrum, M.D. David M. Williams, M.D. Boyce West, M.D.	522 South 16th, Fort Smith 72901 809 West Main Place, Russellville 72801 P. O. Box 220, Clarksville 72830

*Chairman



CONSTITUTIONAL AMENDMENTS

At its meeting on April 29, 1981, the House of Delegates approved recommendations of Reference Committee Number One regarding proposed changes in the Constitution and Bylaws of the Society.

Recommendations regarding the report of the Nominating Committee will require modifica-

tion of the present wording of Chapter V, Section 1 (A) and (B). Proposed revisions to implement the House action will be published in a subsequent issue of the Journal.

All proposed revisions for final consideration of the House of Delegates at the 1982 meeting will be published in the March 1982 issue of the Journal.





MRS. RAYMOND PEEPLES

Hot Springs

President 1981-1982

Arkansas Medical Society Auxiliary

ARKANSAS MEDICAL SOCIETY AUXILIARY CONVENTION REPORT

The Fifty-Seventh Annual Session of the Arkansas Medical Society Auxiliary met at the Camelot Inn, Little Rock, Arkansas, April 26-28, 1981. With the addition of special interest activities this year, a pre-registration form was sent in the Ark-MAP newsletter to the wives of all doctors in the State. A registration desk was opened on the mezzanine of the Camelot on Sunday afternoon and Monday and Tuesday mornings. Registration count was 135 total, 84 of whom pre-registered. Mrs. William Orr had made beautiful name tags in calligraphy for those pre-registered. The theme, "The Spice of Life" was used to stress that, like spices, in blending and working together we spouses produce many unique and pleasing results.

Pulaski County Auxiliary proved to be *hostesses* with the *mostess*. Convention chairmen, Mrs. Paul Cornell and Mrs. J. W. Downs, and their committee offered a wide variety of entertainment. These included a hospitality room, luncheons, style show, western party with skit, sherry party, shape-up-for-life two-mile walk-run for Auxilians and spouses ending with breakfast, hosted by Dr. and Mrs. J. W. Downs. Cooking lessons, needlework classes and tennis were offered. A special thanks to Fern Downs who carried on beautifully when Joann Cornell had to leave unexpectedly due to her daughter's illness.

A joint Memorial Service, beautifully planned by Dr. Frank Morgan, was held on Sunday, April 26, at 1:00 p.m. in the Black Knight room.



Mrs. Jack W. Downs of Little Rock was co-chairman of the Auxiliary convention. Mrs. Paul Cornell of Little Rock was her co-chairman.



Mrs. Warren Boop, 1980-81 president of the Arkansas Medical Society Auxiliary.

BOARD MEETING

A pre-convention meeting of the combined State boards for 1980-81 and 1981-82 was held in the Silver Knight room at 2:30 p.m. on Sunday, April 26, with Mrs. Warren Boop presiding. Invocation was given by Mrs. Boop and Mrs. Raymond Peeples. Special guests were Mrs. Harry S. Dvorsky, president-elect of the American Medical Association Auxiliary, and Mrs. Charles A. Prater, president of the Southern Medical Association Auxiliary. Mrs. Prater challenged us to have more fund raising, community involvement, cooperation with Medical Society and Auxiliary (sharing projects), involvement with spouse and family, work with impaired physician.

Mrs. Ray Jouett gave the treasurer's report and Gann and Oates loan fund reports. There are fourteen students from Sparks Regional Medical Center and St. Edwards Hospital receiving loans from Martha Harding Gann Memorial Funds, Inc. Martha Harding Gann Memorial Fund made a new loan to a student at the University of Arkansas for Medical Sciences. Eleven student loans were made since April 18, 1980, from the Ilse F. Oates Student Loan Fund.

Mrs. Carlos Araoz gave the Dr. and Mrs. W. R.

Brooksher Loan Fund report. Mrs. Charles Wilkins presented the proposed budget for 1981-82, which the board recommended for adoption.

Mrs. Don Scott gave a description of tax-exempt statutes and their appropriate use. A question and answer period followed and the president appointed a committee of Mrs. Payton Kolb, Mrs. Walter S. Mizell, Mrs. Paul Cornell, and Mrs. Don Scott to study the appropriate action for the Auxiliary to pursue, with a firm proposal to be presented at the Fall Board meeting.

Time was allowed for old and new board members to share ideas and material and for Mrs. Peeples to present new workbooks for the coming year.

A reception was given by Mrs. Boop and Mrs. Peeples in the presidential suite immediately following the board meeting in celebration of the past year and in anticipation of the coming year.

Members of the Auxiliary and their spouses enjoyed the Blue Cross-Blue Shield reception on Sunday evening, April 26, 1981.

At 6:30 a.m. Monday, April 27, the Auxiliary sponsored a two-mile "walk-jog" event ending at Andy's for a complimentary breakfast for all



Mrs. Raymond Peebles of Hot Springs (seated) and Mrs. C. Herbert Taylor of West Memphis. Mrs. Peebles is president and Mrs. Taylor president-elect of the Auxiliary.

those participating. It was a fun event with T-shirts for those who pre-registered.

The Past Presidents' Breakfast was held in the Arcade West room of the Camelot. Mrs. A. S. Koenig of Fort Smith and Mrs. Charles Wilkins of Russellville were co-hostesses. Twenty-one members were present for the past Presidents' Breakfast. They gave \$45 in honor of living past presidents to the Dr. and Mrs. W. R. Brooksher Loan Fund.

Mrs. Raymond Peebles held a breakfast and workshop for county presidents-elect in the presidential suite. Mrs. Herbert Taylor held a membership committee breakfast meeting at the same time, also in the presidential suite.

FIRST GENERAL SESSION

The First General Session of the Arkansas Medical Society Auxiliary was held in the Plaza West room of the Camelot with Mrs. Warren Boop, president, presiding. The invocation was given by Mrs. Joe Stallings of Jonesboro. After the reading of the Auxiliary pledge, a welcome was given by Mrs. Charles Logan of Little Rock.



Mrs. Peebles and Mrs. Boop pose with the president-elect of the American Medical Association Auxiliary, Mrs. Harry Dvorsky of San Leandro, California.

Response was made by Mrs. Pat Phillips of Fort Smith. Roll call resulted in the seating of 32 county delegates constituting a quorum.

Mrs. Charles A. Prater, president of Southern Medical Association Auxiliary, addressed the membership.

The following convention committees were announced by Mrs. Warren Boop: Reading Committee, Mrs. John McCollough Smith, chairman, Mrs. D. B. Allen and Mrs. Walter Mizell; Courtesy Resolutions chairman, Mrs. Roger Bost; Credentials chairman, Mrs. William Higginbotham; Timekeepers, Mrs. J. C. Callaway and Mrs. Charles Wilkins; Registration, Mrs. William Orr; Convention chairmen, Mrs. Paul Cornell and Mrs. J. W. Downs.

Mrs. Warren Boop reported from the board that the Fall Board had elected to deposit money in a short-term, high-interest certificate with the resulting interest being divided between the three State student loan funds. The Winter Board had voted to pursue application for a separate tax-exempt status. A bylaws change to allow spouses of resident physicians and medical students mem-

Past Presidents of the Arkansas Medical Society Auxiliary



Seated, left to right, Mrs. Lynn Harris, Mrs. Frank Morgan, Mrs. John McCollough Smith, Mrs. Curtis W. Jones, Mrs. Harold Langston. Standing, left to right, Mrs. Frank Padberg, Mrs. Gordon Oates, Mrs. Kemal Kutait, Mrs. Charles Wilkins, Mrs. Curry Bradburn, Mrs. A. S. Koenig, Mrs. Paul Schaefer (honorary member), Mrs. Louis Hundley, Mrs. Hoyt Choate, Mrs. Walter Mizell, Mrs. A. A. Little, Mrs. Mason Lawson, and Mrs. Carl Wilson.

bership in the State Auxiliary was recommended from the board and approved by the House.

Delegates to the AMA Auxiliary Convention, June 7-10, 1981, elected were: Mrs. Warren Boop, Pulaski County; Mrs. Herbert Taylor, Crittenden County; Mrs. Don Scott, Pulaski County. Mrs. Raymond Peeples is presidential delegate.

The following will serve on the Nominating Committee for 1981-1982: Mrs. Warren Boop, chairman, Pulaski County; Mrs. Ray Jouett, Pulaski County; Mrs. Glenn Hairston, Southwest Arkansas; Mrs. Kemal Kutait, Sebastian County; and Mrs. Asa Crow, Greene-Clay County.

* * * *

Pulaski County Auxiliary hosted a box luncheon at Barbara Jean's, Ltd. exclusive clothing store, with a style show and make-up session following. Door prizes were awarded.

That evening the members joined the Society members at a gala western party in the Great Hall of the Camelot. The Jefferson County Auxiliary received a standing ovation for their skit entitled "Florence and the Nightingales."

A joint Prayer Breakfast was held at 7:30 a.m. on Tuesday, April 28, for members of the Arkansas Medical Society and the Auxiliary.



Mrs. C. Herbert Taylor, president-elect of the Auxiliary, and Mrs. Raymond Peeples, president of the Auxiliary, relax at a convention party.



Mrs. Warren Boop, 1980-81 president of the Auxiliary; Mrs. Raymond Peeples, 1981-82 president of the Auxiliary, and Mrs. J. W. Downs, 1981 Convention Co-Chairman.



Mrs. Curry Bradburn, Mrs. Larry Lawson, and Mrs. Charles Wilkins enjoy an Auxiliary luncheon during the meeting.



Mrs. Kemal Kutait (right), who is Legislation Chairman for the American Medical Association Auxiliary, visits with the AMA Auxiliary president-elect, Mrs. Harry Dvorsky.

AUXILIARY OFFICERS FOR 1981-1982



Left to right: Mrs. James Gardner, Hot Springs, Treasurer; Mrs. Glenn Hairston, Prescott, Southwest Vice President; Mrs. A. Samuel Koenig, Fort Smith, Northwest Vice President; Mrs. Raymond Peeples, Hot Springs, President; Mrs. C. Herbert Taylor, West Memphis, President-elect; Mrs. Joe Stallings, Jonesboro, Members-at-Large Chairman; and Mrs. James Basinger, Jonesboro, Northeast Vice President.

SECOND GENERAL SESSION

The Second General Session of the Arkansas Medical Society Auxiliary met in the Plaza West room of the Camelot on Tuesday, April 28, with Mrs. Warren Boop, president, presiding. The invocation was given by Mrs. D. B. Allen, Little Rock. Following roll call, a quorum was declared present with 28 county delegates seated.

Dr. Kemal Kutait, president of the Arkansas Medical Society, and Dr. C. C. Long, executive vice president of the Society, greeted the House of Delegates and offered their thanks for Auxiliary support. Mrs. Harry Dvorsky, president-elect of the American Medical Association Auxiliary, addressed the membership.

Reports of the county presidents were given with the regional vice presidents moderating. County presidents reported both support and programs on preventive medicine during the year. Columbia County Auxiliary became a newly or-

ganized Auxiliary through the leadership of Mrs. Aubry Talley.

The membership report for the year was 894 members and seven wives of residents.

Mrs. Frank Morgan, chairman of the Nominating Committee, presented the following slate of officers for the coming year:

President — Mrs. Raymond Peeples (Bonnie),
Hot Springs

President-elect — Mrs. C. Herbert Taylor
(Ramona), West Memphis

Recording Secretary — Mrs. J. Darrell Bonner
(Mary), Paragould

Treasurer — Mrs. James L. Gardner (Mary),
Hot Springs

District Vice Presidents:

Northeast — Mrs. James Basinger (Shirley),
Jonesboro

Northwest — Mrs. A. Samuel Koenig, III
(Amalie), Fort Smith

GARLAND COUNTY AUXILIARY MEMBERS AT CONVENTION LUNCHEON



Seated, left to right: Mrs. Martin Koehn, Mrs. Carl Parkerson, and Mrs. Joseph Rosenzweig; standing, left to right: Mrs. Rob McCrary, Mrs. Raymond Peeples, Mrs. James Burton, and Mrs. Peeples' sister, Mrs. Phil Kaster.

Southeast — Mrs. J. W. Downs (Fern),
Little Rock

Southwest — Mrs. Glenn Hairston (Max),
Prescott

The slate was duly elected.

Mrs. Roger Bost, Courtesy Resolutions chairman, gave her report. Mrs. Lloyd Langston, president of the Jefferson County Auxiliary, read a resolution objecting to the national dues increase. The meeting recessed to the Jacques and Suzanne Restaurant.

The luncheon was hosted by the Garland County Auxiliary. They had decorated with centerpieces of green, moss-covered baskets filled with silk flowers. Invocation was given by Mrs. Earl Peeples of Little Rock. A musical program of Scottish folksongs with narration was presented by two Auxiliary members, Mrs. David Nicholson who sang, and Mrs. Sam Carruthers who accompanied at the piano.

Drawing for the AMA-ERF gold necklace and beads was held. A drawing from names of sharing card donors for the matted original of the picture done by Janis Polychron for this year's Christmas Sharing Card followed.

AMA-ERF Chairman Mrs. J. Larry Lawson, reported a total of \$10,045.43 collected for the year 1980-81. Contributions we make to AMA-ERF provide (1) unrestricted grants to medical schools and (2) guaranteed low interest loans to medical students, interns and residents.

Membership awards were presented by Mrs. Raymond Peeples to Benton County Auxiliary for the largest increase in new members *and* the largest percentage increase in membership.

Doctors' Day awards were presented by Mrs. Curry Bradburn to Crittenden County Auxiliary as a county with less than fifty members. Three awards were presented to counties with more than

fifty members: first, Sebastian; second, Craig-head-Poinsett; third, Jefferson.

AMA-ERF awards were presented by Mrs. Larry Lawson to (1) Pope County Auxiliary for largest per capita contribution, largest amount contributed, and largest percentage of increase; (2) Union County Auxiliary for second largest per capita contribution; and (3) Pulaski County Auxiliary for second largest amount contributed.

Mrs. Ray Jouett presented Mrs. Boop with a past president's pin. Mrs. Kemal Kutait installed

the new officers for 1981-1982. Mrs. Boop presented Mrs. Peebles with her president's pin. Mrs. Dale Kincheloe, president of Garland County Auxiliary, presented Mrs. Peebles with the heart of Garland County Auxiliary on a keychain to carry with her on her travels.

Mrs. Peebles then addressed the Auxiliary.

Mrs. Charles Logan, president of Pulaski County Auxiliary, presented a lovely inscribed silver tray to Mrs. Boop as a gift from her county Auxiliary.



Penicillin Resistant N. Gonorrhea in South Arkansas

Wayne G. Elliott, M.D., and Stephen H. Ellis, M.S. (SM) A.S.C.P.*

Penicillin resistant gonorrhea is not a large problem in the state of Arkansas. Review of published reports reveals one case in 1976-77. Personal communication with the State Board of Health indicates one additional case in 1977 and one, to date, in 1980. National reports of beta-lactamase (penicillinase) producing *Neisseria gonorrhea* strains have prompted this report of our experience in South Arkansas. (See Table.)

All positive cultures are routinely screened for penicillin susceptibility by the Kirby-Bauer technique. Tests for beta-lactamase production were not carried out; however, inhibition zones of less than 20 mms. indicate resistance to penicillin at levels over two micrograms/ml. and infer beta-lactamase production. Reagents are now currently available to directly detect beta-lactamase production without disc or MIC testing. Good laboratory practice suggests that this should be done on all isolates.

Increased surveillance, primarily by obstetrical physicians, produced increasing numbers of gonorrhea isolates. The records for 1978 show three cases of penicillin resistant gonorrhea, all three of whom appeared within a short period of time, suggesting a common source. Since 1978, none has appeared in our community. This abrupt re-

duction in resistant organisms may be a local reflection of the national trend toward stable or decreasing rates of penicillinase producing organisms in the presence of increasing numbers of infections.

Knowledge of this nearly uniform susceptibility by the gonococcus should be of clinical usefulness to the practicing physicians in this area. Single dose intramuscular penicillin remains the recommended mainstay of treatment. Single dose oral ampicillin is an acceptable alternative method for those patients who are reluctant to accept intramuscular injections or who are allergic to penicillin. Spectinomycin should have little use in our area because of the continuing susceptibility of *N. gonorrhea*.

TABLE

Year	Total Cultures	Positive Cultures	Rate	Resistant Organisms
1978	590	78	13.2%	3
1979	821	111	13.5%	0

N. gonorrhea cultures.
Associated Pathologists' Laboratory.

REFERENCE

1. Siegel, Martin S., et al: Penicillinase-Producing *Neisseria Gonorrhoeae*: Results of Surveillance in the United States. The Journal of Infectious Diseases, Volume 137, Number 2, February, 1978, p. 170-175.

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Report of the Coordinating Council, Network X- End Stage Renal Disease in Arkansas*

Watson Arnold, M.D.**

In 1978, Congress created the Medicare — End Stage Renal Disease (ESRD) program to provide access to dialysis and transplantation to all eligible persons with renal failure.¹ Since that time, the patient population on dialysis has grown and in 1979 there were 36,463 ESRD patients on chronic dialysis in the United States at a cost of 1.2 billion dollars annually.²

Network X is a member of the End Stage Renal Disease (ESRD) Program which comprises thirty-two networks and encompasses the entire continental United States, including Hawaii, Alaska, Puerto Rico and the Virgin Islands. The program's objectives are three-fold: 1) To assist individuals who have been diagnosed as having ESRD to receive the care they need; 2) To encourage proper distribution and effective utilization of ESRD treatment resources while maintaining or improving the quality of patient care; and 3) To provide flexibility necessary for the efficient delivery of appropriate patient care by physicians and facilities.

Network X includes the entire State of Oklahoma and the State of Arkansas with the exception of two counties on the northeast corner (Crittenden and Mississippi counties) and Texarkana. Each state has a population of approximately 2.5 million persons (Arkansas 2.3 million, Oklahoma 2.8 million) and can be easily compared for statistical purposes. All the hemodialysis and transplant facilities in Arkansas and Oklahoma are members of and actively cooperate with the ESRD Network X Coordinating Council. The Medical Review Board of the Region 10 Coordinating Council assembles information on the patient population on dialysis in the two-state area and conducts quality control audits of patient care with the Region. This report will present data on the patient population, facilities and modalities of therapy available in Arkansas and compare these figures to Oklahoma and to national statistics.

The statistics given in this paper are derived from two sources. The Medical Information Serv-

ice (MIS) is a national computerized compilation of ESRD patients receiving Medicare reimbursements.³ Not all ESRD patients are contained in these figures, for example, those treated in the Veterans Administration Hospitals. Thus the actual numbers of ESRD patients is an underestimate on a nationwide basis. Data from Arkansas and Oklahoma are compiled from facility reports submitted to the Network X office and do include patients receiving care in the VA hospitals. Data from Arkansas and Oklahoma from 1977 and all national totals are from the MIS statistics. Data from 1978 and 1979 for Arkansas and Oklahoma are compiled from Facility Survey reports and include VA hospital patients. Percentiles for each treatment modality were calculated from the number of patients receiving dialysis at the end of each calendar year. The rate of occurrence of transplantation and of death were calculated as a percent of total patients. Registered patients transferring to other facilities are assumed to be included in the new facility's year and patient population. Patients who regained renal function and no longer need dialysis are excluded from the calculations.

Patient Population:

Annually, between 75 to 100 persons per million population develop renal failure in the United States.⁴ Last year, 181 patients started dialysis in Arkansas, an incidence rate of 79 new patients per million. In Oklahoma 290 patients started dialysis, an incidence rate of 104 new patients per million. A total of 318 patients were receiving therapy for end stage renal disease in Arkansas compared with 415 patients in Oklahoma. The lower incident rate in Arkansas may be due to exclusion of Arkansas residents who are dialyzing in West Memphis and Texarkana facilities. Comparable figures are given in Table 1 for the years 1977 and 1978. National statistics are not yet available for 1979. The patient population on dialysis has increased an average of 20% per year over the last three years in both states compared to a 16% increase nationally. The total number of patients receiving ESRD therapy can be expected to continue to increase for several

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more years despite death and those patients receiving renal transplants.

Dialysis Facilities:

During 1978 four new dialysis facilities were approved in Arkansas. Two additional applications were approved in 1979. This resulted in a 33% increase of hemodialysis stations from 79 to 105. Almost all areas of Arkansas now lie within fifty miles of a hemodialysis facility. In Oklahoma two new facilities opened in 1978 and one in 1979. Hemodialysis stations increased 19% from 180 to 214 during that two-year period. Facilities currently operating in Arkansas with date of approval and approximate number of stations in operation are given in Table 2.

Transplant Facilities:

There are two transplant centers in Arkansas, located at the University of Arkansas for Medical

Sciences Hospital and the Veterans Administration Hospital in Little Rock. Oklahoma has four transplant centers — one in Tulsa and three in Oklahoma City. There were 25 transplants performed in Arkansas in 1979 and 58 performed in Oklahoma.

Mode of Treatment:

One of the goals of the ESRD program is to maximize the therapeutic modalities available to patients needing renal replacement therapy. Modalities currently available include in-center hemodialysis (CHD), home hemodialysis (HHD), self-care hemodialysis (SHD), in-center peritoneal dialysis (CPD), home chronic peritoneal dialysis (HPD) and chronic ambulatory peritoneal dialysis (CAPD). Table 1 summarizes the numbers and percentages of patients receiving each type of care during 1977 to 1979 in Arkansas and Okla-

TABLE 1.
DISTRIBUTION OF PATIENTS BY TREATMENT MODALITY

	CHD	CPD	SHD	HHD	HPD	CAPD	Sub- Total	Transplants	Deaths	Total
1979										
Arkansas	225(71%)	18(6%)	11(3%)	50(16%)	14(4%)	0	218	25(6%)	63(16%)	406
Oklahoma	330(79%)	11(3%)	0	60(15%)	9(2%)	4(1%)	412	58(10%)	131(22%)	601
*National	—	—	—	—	—	—	—	—	—	—
1978										
Arkansas	210(71%)	18(6%)	0	54(18%)	14(5%)	—	296	19(5%)	60(16%)	375
Oklahoma	292(78%)	27(4%)	0	51(14%)	5(1%)	—	375	63(12%)	83(16%)	524
National	33,795(90%)	771(2%)	273(1%)	2,411(6%)	277(1%)	—	37,517	3,949(8%)	7,890(16%)	49,366
1977										
Arkansas	154(95%)	3(2%)	2(1%)	3(2%)	0	—	162	22(10%)	40(18%)	244
Oklahoma	248(87%)	26(9%)	2(1%)	5(2%)	0	—	281	4(11%)	57(15%)	379
National	28,159(89%)	526(2%)	191(1%)	2,346(7%)	196(1%)	—	31,418	3,973(9%)	6,739(16%)	43,130

*Figures not currently available.

NETWORK COORDINATING COUNCIL — ESRD NETWORK X
ESRD QUARTERLY PATIENT CENSUS — OCTOBER 1, 1979 THRU DECEMBER 31, 1979

Arkansas		No. of Medicare ESRD Patients in Facility
1. Arkansas Children's Hospital, Little Rock, AR	1978	2
2. Baptist Medical Center, Little Rock, AR	1977	7
3. Bio-Medical Applications, Inc., Little Rock, AR	1973	75
4. Bio-Medical Applications, Inc., Hot Springs, AR	1979	9
5. Community Dialysis Center, Inc., El Dorado, AR	1978	13
6. Community Dialysis Center, Mountain Home, AR	1979	—
7. Community Dialysis Center, Pine Bluff, AR	1979	—
8. Holt-Krock Dialysis, Fort Smith, AR	1975	35
9. Little Rock Hemodialysis, Little Rock, AR	1966	48
10. Sparks Regional Medical Center, Fort Smith, AR	1975	0
11. St. Bernard's Hospital, Jonesboro, AR	1978	20
12. University Hospital, Little Rock, AR	1962	18
13. Veterans Administration Hospital, Little Rock, AR	1967	0
14. Washington Regional Hospital, Fayetteville, AR	1974	18

*Year the facility began operation.

homa. These figures indicate that the number and percentages of patients receiving ESRD therapy by modalities other than in-center hemodialysis has increased dramatically over the last two years. In Arkansas the percentages of patients receiving dialysis at home or receiving peritoneal dialysis has increased from 5% to 29% in spite of increases in total patient population. CAPD is a new treatment modality not previously surveyed that will probably continue to increase in popularity in the coming years.⁴ Significantly more patients received alternate treatment for renal failure in Arkansas than nationally.

The number and percent of patients receiving transplants is lower in Arkansas than in Oklahoma but are close to national averages. The number of patients receiving transplants has remained stable for the last three years in Arkansas, a fact reflecting more liberalized selection of dialysis patients, insistence on better-matched kidneys and the general scarcity of suitable cadaver organs. Nevertheless, 14% of patients entering the ESRD program received transplants in Arkansas. Deaths continue to occur in patients with ESRD at an average rate of 15% of patients receiving care per year. These average figures do not allow for the higher death rates among diabetics or other high risk patients, nor do they indicate the immediate cause of death which is often cardiovascular and not renal in origin.⁵

Summary:

The Department of Health and Human Services (HEW) through the Medicare system has established a program to allow physicians and other health care deliverers to participate in the End Stage Renal Disease program by the establishment of Coordinating Councils. The data presented in this paper was gathered by the Medical Review Board of Network X and provides information on the patients receiving care in Ar-

kansas and Oklahoma. With the establishment of new facilities, hemodialysis and transplantation are now readily available to all patients in both states. New modalities of therapy including chronic peritoneal dialysis, chronic ambulatory peritoneal dialysis and home hemodialysis are used by a large number of patients in Network X. Compared to national statistics, Arkansas is offering a larger number of treatment modalities to a larger number of patients. Further studies of hospitalization rates, infections and transplant survival in patients with end stage renal disease are being made and will be presented in a later report.

MEDICAL REVIEW BOARD

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1. Public Law 29-603, Section 2991 of Social Securities Amendment of 1972.
2. Friedman, E. A., Delano, B. G., and Butt, K. M. H.: Pragmatic Realities in Uremia Therapy. *NEJM* 298, 7:368, Feb. 16, 1978.
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National Institutes of Health Consensus Development Conference Statement CEA (Carcinoembryonic Antigen): Its Role as a Marker In the Management of Cancer

A Consensus Development Conference was held at the National Institutes of Health September 29 - October 1, 1980, to address issues concerning the role of the carcinoembryonic antigen (CEA) as a marker in the management of cancer.

At NIH, Consensus Development Conferences bring together biomedical research scientists, practicing physicians, consumers, and others with special interest or knowledge, in an effort to reach general agreement on the scientific evaluation of a medical technology. That technology may be a drug, device, or laboratory, medical, or surgical procedure.

For this Consensus Conference, the members of the Panel were limited to biomedical and clinical investigators actively working in the field, clinically involved in patient care, and familiar with the technology under assessment. The Panel met following formal presentations and discussions to assess the issues based on the evidence presented. This summary is the result of the Panel's deliberations.

Introduction

Human neoplasms may produce and release into the circulation a variety of substances collectively referred to as *tumor markers*. The oncofetal antigens comprise one particular group of markers, of which the carcinoembryonic antigen (CEA) has been the most widely studied.

CEA is a glycoprotein of about 200,000 molecular size. It is expressed in significant amounts during embryonic life, especially by the large intestine, and postnatally by carcinomas arising from this site. CEA can be released by these tumors into the circulation to cause raised levels which may be measured by sensitive radioimmunoassay and related techniques. Such methods have, however, demonstrated that small amounts of CEA are also present in the normal adult large intestine and in the circulation of healthy subjects.

Subsequent investigations have revealed that many epithelial-derived tumors at other sites may

also express CEA and be associated with elevated circulating blood levels. Thus, it may be that the assay of plasma CEA has protean applications in oncology.

The Consensus Development Panel and members of the audience considered evidence to address the following questions:

1. Should CEA be used in cancer screening?
2. Is CEA helpful in cancer diagnosis?
3. What does CEA tell about the extent and outcome of cancer?
4. Is CEA helpful in monitoring cancer treatment?

Plasma CEA Levels in Health and Disease

Using the presently available radioimmunoassay, 2.5 ng/ml is stated to be the upper limit of normal for plasma CEA levels. Values in excess of 2.5 ng/ml may be found in association with cancers, in particular those of the gastrointestinal tract, pancreas, ovary, lung, and breast. Similarly raised CEA levels may, however, be detected in cigarette smokers, in patients with benign neoplasms, and in 15 to 20 percent of subjects with inflammatory disorders such as ulcerative colitis, Crohn's disease, pancreatitis, liver disease, and pulmonary infections. Thus, raised plasma CEA values are not specific for cancer, although very high levels (for example, above 20 ng/ml) are highly suggestive of malignancy. It is important that serial assays of CEA be used in reaching a clinical judgment, and not any single determination. The Panel believes that each laboratory performing CEA assays should establish its own "normal" range. The recommended upper level of "normal" (2.5 ng/ml) in the population requires additional evaluation. Values cited in this document are based on the only radioimmunoassay commercially available at the time of the conference, the Hoffmann-La Roche assay. Other assay systems may give different results.

Conclusions and Recommendations

After listening to and discussing the evidence, the Panel reached the following conclusions:

Mr. Michael Bernstein, Director of Communications, Office for Medical Applications of Research, Department of Health and Human Services, Public Health Service, National Institutes of Health, Bethesda, Maryland 20205.

1. Should CEA be used in Cancer Screening?

As indicated above, studies to date have revealed a major overlap in the distribution of plasma CEA values in subjects with inflammatory diseases and benign and malignant tumors of the gastrointestinal tract and of other sites, including breast, bronchus, urothelium, ovary, uterus, and cervix. Therefore, the plasma CEA assay does not possess the sensitivity (true-positive rate) or the specificity (true-negative rate) required to discriminate between localized malignant tumors and benign disorders.

Consequently, these data, together with the fact that raised CEA levels occur in smokers, vitiate the use of plasma CEA assays in the screening of an asymptomatic population to detect neoplastic disease. The use of CEA to assist with the surveillance of so-called high-risk groups, in whom CEA-producing tumors may develop, remains to be established.

2. Is CEA Helpful in Cancer Diagnosis?

Few prospective studies have been effected with the aim of determining whether the availability to clinicians of a plasma CEA result would help in confirming a suspected malignancy in symptomatic patients. In addition, the caveats with respect to cancer specificity which limit the CEA test's applicability for screening (namely, that raised levels occur with smoking, non-neoplastic diseases, and benign tumors) are also pertinent with respect to assisting in reaching a diagnosis in a symptomatic population.

Therefore, we cannot recommend, based on the presently available data, that CEA be used independently to establish a diagnosis of cancer. However, in a patient with symptoms, a grossly elevated value, greater than 5-10 times the upper limit of the reference normal range for that particular laboratory, should be considered strongly suggestive for the presence of cancer in that particular patient. In this situation further diagnostic efforts to establish the presence or absence of cancer are indicated.

3. What Does CEA Tell About the Extent and Outcome of Cancer?

Many workers have shown that preoperative plasma CEA levels correlate with the clinical stage of disease in several tumor types. Patients with colorectal or possibly bronchial carcinomas whose preoperative CEA levels are at the lower end of

the spectrum have better survival rates than patients whose levels are in excess of 10 ng/ml.

It should be remembered, moreover, that the correlation between increasing plasma CEA levels and progressive cancer is not always perfect and that a normal CEA cannot be taken as evidence of localized disease or remission. About 15 to 20 percent of patients with proved malignancies never have elevated plasma levels. Such false negatives may be related to the degree of tumor differentiation. Poorly differentiated colorectal carcinomas, for example, tend to be associated with a reduced proclivity for CEA expression and release.

On the basis of the available data, we recommend that a preoperative plasma CEA value be obtained in patients with either colorectal or bronchial carcinomas and be used as an adjunct to clinical and pathological staging methods.

4. Is CEA Helpful in Monitoring Cancer Treatment?

The regular and sequential assay of plasma CEA is the best presently available noninvasive technique for postoperative surveillance of patients to detect disseminated recurrence of colorectal cancer. As a monitor of colorectal cancer, CEA has been found to be elevated when residual disease is present or is clinically progressing. Following complete surgical removal of a colorectal malignancy, an elevated plasma CEA value should usually return to normal by six weeks. The failure to observe a reduction of a previously elevated preoperative CEA titer strongly indicates the presence of residual tumor. It is also possible to demonstrate in a substantial number of patients that CEA becomes significantly elevated before metastatic disease can be detected by clinical or other diagnostic measures. This information can be best achieved by obtaining plasma samples for CEA assay preoperatively, four to six weeks postoperatively, and thereafter at regular intervals as an integral component of overall patient follow-up. While slowly rising levels may be more indicative of local recurrence, rapidly rising values reaching very high levels, usually in excess of 20 ng/ml, are found most often with hepatic and osseous metastases.

For patients with metastatic tumor, the CEA assay may complement standard clinical measurements of tumor response to therapy. However, as in the case of other clinical laboratory tests, there

are examples of discordance between the observed change in tumor mass and the corresponding CEA values. In patients with advanced unmeasurable tumor, especially colorectal carcinoma, CEA assays may offer the only index to measure changes in tumor burden. Although definite criteria to aid in deciding whether to continue or alter therapy in patients with unmeasurable tumor, based on serial CEA determinations, are not established, it appears that a steadily, markedly rising titer is indicative of a poor therapeutic response. In such circumstances, each physician should make an individual decision whether CEA monitoring will be of clinical value in the management of a particular patient.

It is important to remember that raised values, due to various causes such as smoking, intercurrent infection, etc., can be seen in patients where the tumor is clinically stable and that decreasing CEA values are not invariably a sign of successful therapy. Furthermore, a proportion of patients with recurrent or advanced colorectal cancer may not show elevated plasma CEA values.

The role of CEA in the postoperative and therapeutic monitoring of patients with other types of cancer, such as pancreatic, gastric, and gynecological neoplasms, is less convincing than it is for colorectal cancer. In patients with metastatic breast cancer or lung cancer, especially small cell carcinoma, and significant CEA elevations, changes in CEA titers may be of value in reflecting response to chemotherapy. More studies are required to evaluate the role of CEA determinations for initiating or changing therapy in tumor types other than colorectal cancer.

The Panel would like to stress the view that the clinical utility of a tumor marker may be related to the efficacy of a therapeutic regimen. Where earlier recognition of disease progression is not accompanied by appropriate therapy, no benefit is gained. On the other hand, as more successful treatments for the major tumor types become available, CEA and other tumor markers will be more useful in the management of cancer.

Additional Needs

The Panel has identified several areas for future study which should improve the clinical utility of the CEA assay: the improvement of assay methodology; the evaluation of monoclonal

antibodies to CEA for improving assay specificity; the establishment of a laboratory quality control system using a CEA standard preparation; the clinical study of CEA in combination with other markers; the diagnostic role of CEA in biological fluids other than plasma; the individual and collective comparison of CEA with other specific diagnostic modalities; the estimation of tumor CEA content in relation to plasma CEA values; and the study of the pathophysiology and metabolism of CEA.

This consensus Conference on *CEA (Carcinoembryonic Antigen): Its Role as a Marker in the Management of Cancer* was sponsored by the National Cancer Institute, assisted by the Office for Medical Applications of Research, Office of the Director, NIH.

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Louis P. Greenberg, M.S.

National Cancer Institute

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**SUMMARY OF CONSENSUS DEVELOPMENT
CONFERENCE ON CEA**

A National Institutes of Health Consensus Development Conference on CEA (carcinoembryonic antigen): its role as a Tumor Marker in the Management of Cancer, was held at the National Institutes of Health September 29 - October 1, 1980. The conference was sponsored by the National Cancer Institute, assisted by the Office for Medical Applications of Research, Office of the Director, NIH.

At NIH, Consensus Development Conferences bring together biomedical investigators, practicing physicians, consumers and others to provide a setting for the evaluation and review of the scientific soundness of a health or health-related technology, with an emphasis on safety and efficacy.

After two days of consideration of formal presentations by experts and comments by conference attendees, the Consensus Panel issued a statement reflecting its conclusions. This is a summary of that report.

Currently, measuring the levels of the tumor marker CEA in the blood of colorectal cancer patients is the best noninvasive technique for monitoring the disease after surgery. More studies are needed, however, before routine use of CEA can be advocated for monitoring patients with other types of cancer.

Many scientists have shown that CEA levels

relate to the clinical stage of several types of cancer. CEA can help identify the disease stage and appropriate treatment, particularly in patients with colorectal or lung cancer. In addition, CEA is especially valuable in the continual monitoring of colorectal cancer patients.

CEA should be measured in colorectal cancer patients before surgery. About six weeks after surgery, another plasma CEA sample can provide a baseline for monitoring the disease course, treatment, and prognosis. Within six weeks after surgery, previously elevated CEA should return to normal levels. Failure to do so points strongly to the continuing presence of cancer.

Radioimmunoassay tests have shown that small amounts of CEA also are present in the circulation of a healthy person. Higher CEA levels are not only characteristic of cancer, however; CEA levels can rise from smoking, benign tumors, and inflammatory disorders. Moreover, about 15-20 percent of patients with proved cancers never have increased CEA levels. Therefore, CEA assays should not be used in cancer screening for persons with no symptoms and assays should not be used independently to establish a diagnosis of cancer.

The usefulness of CEA in monitoring patients with other types of cancer is less convincing than it is for colorectal cancer. Future research should provide further insight into these questions.

It also would be beneficial to pursue research that might improve the assay's usefulness, such as studying CEA in combination with other markers, and establishment of a laboratory quality control system using a CEA standard preparation.

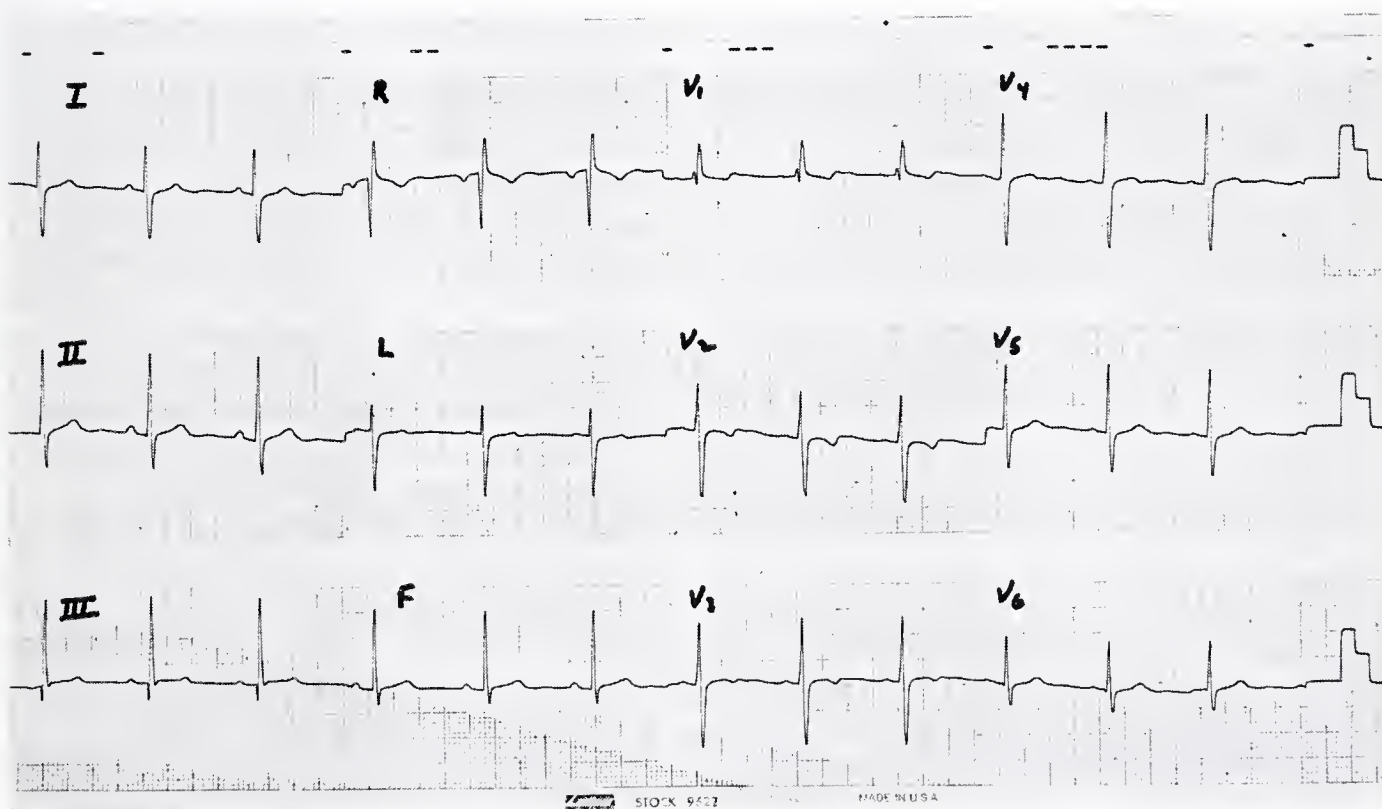
Copies of the complete Consensus Development Panel Statement on CEA are available from the Office for Medical Applications of Research, National Institutes of Health, Building 1, Room 216, Bethesda, Maryland 20205.





The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 75)



HISTORY: This asymptomatic 25-year-old man has presented for evaluation of a heart murmur discovered in the course of a routine physical examination. In addition to his grade 2 of 6 systolic ejection murmur best heard at the upper left sternal border, he has a right ventricular systolic lift along the left sternal margin, mild accentuation of S_1 and fixed splitting of S_2 even with a Valsalva maneuver. His ECG is shown above.

Which of the following statements are most likely true?

1. The patient is at high risk for developing endocarditis.
2. He is at high risk for developing equalization of pulmonary and systemic vascular resistance.
3. Spontaneous closure of his defect is likely to occur.
4. Atrial arrhythmia, congestive heart failure, and paradoxical embolization are all potential problems.
5. His life expectancy without surgery is normal.

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MEDICAL GRAND ROUNDS

Systemic Complications of Rheumatoid Arthritis

Eleanor Lipsmeyer, M.D.,* Louis Sanders, M.D.,** Robert Lewis, M.D.***

Before considering the systemic complications of rheumatoid arthritis (RA), it is appropriate to outline the mechanisms of immune response in this disease. The earliest abnormality in the affected joint is increased synovial blood flow and edema. Synovial fluid accumulates, followed by proliferation of superficial synovial lining cells and accumulation of lymphocytes and mononuclear cells in the subsynovium. The reactions which occur within the synovial fluid are characteristic of the antigen-antibody response, while the reaction seen within the synovial tissue resembles a lymphokine-mediated disease. Vascular proliferation occurs because inflammation stimulates new capillary growth. These vessels mature, flow increases, and temperature in the joint rises.

Thought to be important in the production of the disease is the formation of rheumatoid factor, usually an IgM-type protein (immunoglobulin) which reacts with antigenic sites on IgG molecules. IgG and IgM rheumatoid factor fix complement. The exact role of rheumatoid factor in the development and maintenance of RA is uncertain. Evidence against a pathogenic role for rheumatoid factor¹ include these facts: it occurs in patients with diseases other than RA; it does not occur in every patient with RA; children with juvenile rheumatoid arthritis rarely have rheumatoid factor in the serum; and a rheumatoid-like disease occurs in some patients who have agammaglobulinemia, and are unable to produce rheumatoid factor. Conversely, the evidence that rheumatoid factor is deeply involved in the pathogenesis of rheumatoid arthritis includes the fact that IgG, IgM-rheumatoid factor, and complement are found in immune complexes in polymorphonuclear leukocytes present in the joint fluid and in the synovium. These cells, often called RA cells or "ragocytes" may liberate enzymes that damage intra-articular structures. If IgG is injected into the joints of patients afflicted with RA, an inflammatory response is produced suggesting that it is

incorporated into an immune complex, presumably in association with rheumatoid factor.

Rheumatoid factor may play a role in determining the site of disease by precipitating soluble immune complexes.¹ If the complexes are localized in the joint space, further phagocytosis and enzymatic release and disease may occur there, but this may be ultimately beneficial by keeping immune complexes from circulating in the blood and producing systemic disease. Rheumatoid factor may determine lymphocyte function. Suppressor T cells are triggered by IgG complexes; helper T cells are triggered by IgM complexes. Thus, while IgG complexes would tend to suppress antibody response by activating suppressor T cells, IgM complexes would stimulate helper T cells and allow continued antibody formation and further antigen elimination.

Cellular infiltrates seen in synovial fluid and tissues allow us to postulate different mechanisms of disease.¹ Polymorphonuclear leukocytes (PMNs) are drawn into the joint space by multiple chemotactic factors released by complement activation. Lysosomal enzymes from PMNs can degrade virtually all components of the joint. Enzyme release is caused by phagocytosis of immune complexes as well as by death and lysis of PMNs. Monocytes migrate into the synovium and are transformed into macrophages. Functions of these macrophages include active phagocytosis of tissue debris, trapping, transporting, and processing of antigen, and secretion of enzymes which increases cartilage and bone destruction. Synovial cells which line the joint space add hyaluronic acid to an ultrafiltrate of plasma to produce joint fluid. In the subsynovium, germinal centers of lymphocytes exist and antibody production has been demonstrated in the synovial B lymphocytes.

Soluble mediators of inflammation include prostaglandins and kinins. Complement is synthesized in the rheumatoid synovial tissue; but despite this synthesis, levels of complement are lower in the rheumatoid synovial fluid than in joint fluid from patients with other diseases, indirect evidence of its consumption in this disease. Complement activation results in the production

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Edited by George L. Ackerman, M.D., Professor and Vice-Chairman, Department of Medicine.

of multiple biologically-active fragments including the anaphylatoxins which are chemotactic for PMNs.

Lymphokines released by activated T lymphocytes have multiple effects upon macrophage function. These soluble factors attract, immobilize, and activate monocyte-macrophages and stimulate phagocytosis and lysosome degranulation. Rheumatoid factor is seen in the circulation in patients with many of the systemic manifestations of RA. Its role in pathogenesis of most of these complications is unknown. Another common factor in the development of systemic changes is the increased reactivity of mesenchymal tissue which is present in RA.

Complications and systemic manifestations of rheumatoid arthritis.

Subcutaneous nodules² are seen in approximately 20 percent of patients with RA. In general, they are associated with high serum titers of rheumatoid factor, and are seen in patients with severe disease, often with systemic manifestations. The nodules have a characteristic microscopic picture of fibrinoid material in a central area with a surrounding palisade of elongated histiocytes arranged radially about the necrotic zone, and a peripheral layer of chronic inflammatory cells. Nodules may be confused with gouty tophi or xanthoma. Generally they require no treatment; if removed surgically they may return or heal poorly leaving a draining sinus tract.

Cricoarytenoid arthritis³ produces symptoms ranging from those of a foreign body in the throat to dyspnea and nocturnal stridor. If the arytenoids become fixed in the adducted position, the airway may be reduced and with superimposed infection, death can result.

Atlanto-axial dislocation⁴ is caused by involvement of the transverse ligament fixing the odontoid process of the axis. When the transverse ligament becomes lax, the atlas falls forward when the head is flexed. Severe neck pain, numbness, and weakness in the extremities, or sudden bladder or bowel dysfunction are warning signals that surgical stabilization may be necessary.

Sjogren's syndrome or "sicca syndrome"⁵ is a chronic disorder characterized by the presence of dry eyes, dry mouth, and joint pain. Extensive involvement in some patients may include dryness of nasal and pharyngeal mucosa, trancheobronchial areas, vagina and stomach, as well as definite

enlargement of the parotid and lacrimal glands. Approximately 50 percent of the patients have RA or some other connective tissue disease, but only 10 to 15 percent of patients with RA develop Sjogren's syndrome. Patients are usually middle-aged women; all races may be affected. Patients complain of "scratchy eyes" and early morning thickened secretions in the eyes. Diagnostic studies include the Schirmer test in which filter paper is placed in the lower eyelid and left for five minutes. Because the paper is irritating, normal patients produce enough tears to moisten 15-20 mm of the strip within five minutes, but patients with Sjogren's syndrome fail to do this. Biopsy of the minor salivary glands in the lower lip reveals infiltration by lymphocytes with atrophy of the glandular tissue. Serum studies may show hypergammaglobulinemia, very high titer of rheumatoid factor, and usually antinuclear antibodies. Treatment is purely symptomatic and generally disappointing.

Felty's syndrome⁶ is characterized by splenomegaly and leukopenia. Ulcerations on the lower legs are frequently reported. Although some patients demonstrate antinuclear antibody activity with primary specificity for granulocyte nuclei, studies have failed to document a definite relationship between titers of antinuclear antibody and fluctuations in the white blood cell count. The etiology of leukopenia may be related to the presence of antigranulocytic antibodies, to hypersplenism, or to a humoral factor which causes bone marrow suppression. If serum from patients with Felty's syndrome is transfused into normal patients, there is a transient decrease in the numbers of circulating granulocytes. Splenectomy is probably indicated in patients with a granulocyte count less than 1000 who have repeated infections or lower extremity ulcers.

Rheumatoid vasculitis⁷ is seen in older patients with high titers of rheumatoid factor and subcutaneous nodules. Sjogren's syndrome or Felty's syndrome may also be present. Many of these patients are so ill that the condition has been termed "malignant rheumatoid arthritis." Patients usually have high sedimentation rates, leukocytosis, and fever. Vasculitis may involve the skin and extremities with nail-fold infarcts, or mononeuritis multiplex. Systemic vasculitis of RA is sometimes indistinguishable from polyarteritis nodosa, but the kidney is usually spared in RA vasculitis. Infarction of the myocardium

and bowel may occur as a result of the vasculitis. Rheumatoid vasculitis was very rare before the advent of corticosteroids. When they were first used, patients were treated with large doses and the syndrome was noted more frequently. With more modest doses it is seen less often. The current recommendations for therapy include reduction of high-dose steroids, or initiation of corticosteroids if the patient is not taking them. If the patient does not respond, an experimental protocol using penicillamine or cyclophosphamide may be tried.

Pulmonary complications⁸ in RA include pleural effusions which are usually small and unilateral but may be persistent or recurrent. These effusions may precede the onset of arthritis and are four times more common in men than women. The fluid is clear and opalescent with a very low glucose content, since rheumatoid pleuritis inhibits carbohydrate transport. The fluid also has high lactic dehydrogenase levels; the white blood cell count of the fluid ranges between 1000 and 3000, and the protein content is that of a transudate. If the pleura is biopsied, nonspecific fibrosis and rarely rheumatoid nodules are seen. Pulmonary nodules may occur; they may be single or multiple and are 1 to 5 cm in diameter. These are more common in men. When pulmonary nodules are present, there are usually subcutaneous nodules also. The occurrence of pulmonary nodules with pneumoconiosis is called Caplan's syndrome. These are small multiple peripheral lung nodules and may occur in patients with pneumoconiosis and RA following prolonged exposure to coal, sand, iron, and rarely asbestos. They are distinguished histologically from primary fibrosis by the presence of a layer of histiocytes surrounding a central area of necrotic collagen. They may become quiescent, may heal by fibrosis, or may become infected or calcified.

Airways obstruction⁹ may occur with normal x-rays in patients who have rheumatoid arthritis. This is a progressive small airway obliteration occurring especially in the bronchioles. Chest x-ray shows over-inflation without pulmonary fibrosis. Diffuse pulmonary fibrosis may occur in RA and may produce dyspnea, respiratory insufficiency, clubbing, and chronic hypoxia. Patients with diffuse pulmonary fibrosis may have circulating immune complexes detected by ultracentrifugation of their plasma. Lung biopsy may reveal IgM

deposits within the diffuse fibrotic lesion, and some believe fibrosis results from filtration of immune complexes by pulmonary capillaries.

Pulmonary artery obstruction with pulmonary hypertension may be caused by an obliterative hypertrophy of the vascular intima of the pulmonary arteries without associated alveolar fibrosis. Most of these patients have Raynaud's phenomenon.

Treatment of the respiratory complications of rheumatoid disease is generally disappointing. The results of treating fibrosing alveolitis with corticosteroids have been depressing and lung changes may often accelerate after withdrawal of these drugs. Treatment with compounds to reduce formation of fibrous tissue in rheumatic disease is under evaluation.

Thirty-to-fifty percent of patients with rheumatoid arthritis have histologic evidence of inflammatory pericardial disease.¹⁰ Most are asymptomatic and tamponade is very rare. Pericardial fluid from these patients resembles pleural fluid and has an increased gamma globulin level, low glucose content, and an increased LDH concentration. "Ragocytes" may be seen. Endocardial and myocardial disease may be associated with severe active rheumatoid arthritis. Well-structured rheumatoid granulomata may be seen on the valve leaflets or myocardium. Arteritis of the small, but not major, coronary arteries is rarely seen. Clinically, one may detect murmurs, conduction abnormalities, valve perforation, papillary muscle dysfunction and very rarely, aortitis with associated aortic valve insufficiency.

Compressive neuropathy may be found with very early rheumatoid arthritis and is usually associated with local synovial proliferation, especially in the carpal tunnel area.¹¹ A distal sensory transient neuropathy may occur in mild disease and presents as a glove-and-stocking hypoesthesia of the feet and hands. Severe fulminating sensorimotor neuropathy may occur in rheumatoid vasculitis. Mortality is high, and the incidence is usually higher in males. There is no evidence that this disease is related to the duration of arthritis, to local joint involvement, to past therapy, or to the presence of antineural antibodies.

Rheumatoid meningitis has been described;¹² CSF from the involved area showed an increase in IgM, IgG, white blood cells, and a low glucose

content. The presence of elevated IgG, IgM-rheumatoid factor, and immune complexes in the CSF implicates an immune reaction in the development of rheumatoid meningitis.

Although the treatment of most of the systemic complications of rheumatoid arthritis is palliative, most of the conditions described are relatively rare, and most patients with rheumatoid arthritis have only joint disease.

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EDITORIAL

Amyloidosis—The Beta Fibrilloses

Alfred Kahn, Jr., M.D.

Every medical student first learns about amyloidosis during his pathology course. The older texts describe it as a waxy material deposited in certain tissues — and that is about all that is said. Amyloidosis is forgotten until lectures on medicine when the students are briefly told that there are several types. The whole subject has been a mystery and thus has been treated in rather cursory fashion — until recently.

George C. Glenner (New England Journal of Medicine, Volume 302, p. 1283, June 5, 1980) has reviewed "Amyloid Deposits and Amyloidosis," and there is much new information available. The deposit in amyloid has a very unique physical structure. It is called a beta pleated sheet structure. Amyloid material is in fibrils which this unique twisted beta pleating; this structure is not present in any other mammalian tissue, according to Glenner. Investigators have proved that some serum precursors can undergo proteolysis and form beta pleated sheet fibrils. Glenner goes on to state that amyloidosis is a group of disease in which various proteins form beta pleated fibrils by different chemical modes. In fact the subtitle of his article is called "The Beta Fibrilloses." Studies on beta pleated fibrils explain their resistance to dissolution and the mode of congo red uptake. Glenner states that beta fibrilloses occur with infection, inflammatory disorders, tumors, immune cell dyscrasias, and other conditions. Chemically, the fibrils may be composed of eight chain from immune proteins A proteins, serum proteins eight chains, etc.

The amyloid forming substances have been chemically studied and analyzed. They have been synthetically formed, too. The author has reiterated throughout his review that the protein forming amyloid tissue can vary from case to case;

the common factor in amyloid tissue is the twisted beta pleated sheet fibrils.

Amyloidosis can be classified into several types, one of which is acquired systemic amyloidosis; this implies an immunocyte type of disease. This disorder seems to derive from excessive immunocytes which form a monoclonal protein. Glenner says that free eight chains "appear to be essential diagnostic feature of immunocytic amyloidosis;" whole protein can be found in many of these cases. Glenner says that acquired systemic monoclonal protein usually occurs from 55 years and up; whole monoclonal immunoglobulin is usually present; plasma cells are increased but there are no visible bone lesions; this disorder is manifested by neuropathy, cardiomyopathy, purpura, arthropathy, and enlargement of the tongue. Plasma cell myeloma also is found in connection with amyloid disease. Waldenstrom's macroglobulinemia can be found in association with amyloidosis. Certain heavy chain immuno protein cases have been reported to be afflicted with amyloidosis.

Reactive systemic amyloidosis are those cases seen in association with inflammatory disorders and neoplasia. Glenner states that rheumatoid disease is seen in association with amyloid disease in a rather high percentage of cases; it is said that 14% or more of rheumatoid cases show amyloidosis at autopsy. Tuberculosis is an important cause of reactive systemic amyloidosis of the neoplastic disorders, Glenner states that Hodgkins disease and hypernephroma are the commonest cause of non-immune tumors which are seen in association with amyloidosis.

Glenner lists one type of amyloidosis as organ limited. This group comprises those cases of

cutaneous amyloidosis, cerebral amyloidosis, and amyloid cardiomyopathy.

The diagnosis of amyloidosis by non-invasive means can be difficult. Congo Red test is the oldest test but it is reported to be somewhat capricious. Antiserums to fibril proteins have not been proved. Glenner states that to make a diagnosis of amyloidosis from antiserum will require a monospecific antiserum against amyloidogenic protein. Glenner recommends that suspected cases of amyloid disease be investigated by protein electrophoresis and immuno electrophoresis. Bone marrow aspiration for multiple myeloma may be necessary. Biopsy of suspected tissue is a

fairly sure way of establishing a diagnosis of amyloidosis — if the tissue is accessible. Rectal biopsy is reported to be positive in 25% of the cases of generalized amyloidosis. Other areas favorable for biopsy include the kidney, liver, small intestine, skin, gums, etc.

Glenner says that systemic amyloidosis is usually fatal. Reactive amyloidosis may improve if the underlying disease is treated. Various drugs have been tried without proved success in the treatment of amyloidosis, including colchicine, dimethyl sulfoxide, adrenal steroids, etc. Supportive therapy for amyloidosis is currently about the most important form of therapy.



"From Other Years"

(From UAMS Library, History of Medicine Archives Division.)

Arkansas Medical Monthly

Vol. 1 No. 7 October, 1880 p. 323-324

WILLIAM WOOD & CO.

William Wood and Co., of 27 Great Jones Street, New York, are among the most extensive medical book publishers in the world, and the wonderful amount of energy and enterprise manifested by them in their efforts to supply medical men with the best of literature at the cheapest rates ever before offered, mark them as true friends of our profession. It does not matter how impecunious a practitioner may be, none are too poor to supply themselves through this firm of as good medical libraries as grace the shelves of the most intelligent and independent physicians of any country. How many doctors of the present day are depending for advancement upon their half dozen textbooks for a guide, and are deterred from contributing a valuable experience to the medical press, simply because they are unable to supply their libraries with the heretofore usually high-priced volumes necessary for consultation in the preparation of opinions to be published. This difficulty no longer exists, for the subscription library, now furnished by William Wood and Co.,

for the nominal sum of \$15.00 per annum, embraces, in handsome volumes, the choice efforts of both American and foreign authors. We hope our readers will at once avail themselves of this important opportunity.



ANSWER—Electrocardiogram of the Month

CASE DISCUSSION: The patient's ECG shows him to have normal sinus rhythm, QRS duration 0.08 seconds, right axis deviation, and RSR complexes in V₁ with R' wave exceeding 6 mm and the R'/S ratio exceeding 1. These findings are consistent with right ventricular enlargement. The patient's physical examination strongly suggests the presence of an atrial septal defect. He would be most likely to have an astium secundum defect. The axis of the ECG is of some help in differentiating primum from secundum defects. Both endocarditis and Eisenmenger's syndrome are unlikely to occur with secundum defects. Spontaneous closure is very rare after the first year of life. A patient with atrial septal defect does not have a normal life expectancy. Much of morbidity may be seen as a result of arrhythmia and CHF. Paradoxical emboli may occur as well. Thus, statement 4 is true and the remainder of statements are false.

MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

The American Medical Association has told the Congress that it endorses the thrust of the Reagan Administration's "cap" proposal to control Medicaid costs in support of the President's program to improve the overall economic situation.

Frederick A. Ackerman, M.D., Chairman of the AMA's Council on Legislation, told the Senate Special Committee on Aging that achieving economies in the Medicaid program will not be an easy task. "There can be no question, however, that much can be done to help assure that Medicaid achieves greater cost-effectiveness while maintaining the availability of quality care," Dr. Ackerman said. "States should be able to maintain essential services through greater efficiencies in administration, and by elimination of fraud and abuse through vigorous enforcement of the law and judicious cutbacks where eligibility has become over-extended.

"While the Association has not had the opportunity to examine the legislative details of the Administration's Medicaid 'cap' proposal it supports the overall initiatives of the President 'as he seeks to restore some measure of fiscal stability and integrity to our government budget policies.'

"There can be little question that the American people wish to have the government do whatever it can to stem the rapidly rising cost of living," Dr. Ackerman said. "The nation requires a commitment by government, the private sector and the individual household to do what each can — individually and collectively — to hold down the recent dramatic increase in the cost of living. Where cuts are made across the board to reduce deficit spending, our Association expects that some reductions in federal health spending will also take place."

The Association spokesman did not specifically endorse the Administration's proposed five percent "cap," and asked the Congress to carefully examine whether the use of the Gross National Product deflator was the appropriate tool to determine the "cap."

The AMA spokesman also supported in concept the Administration's proposal to transfer the present numerous categorical health program grants into two block grants — one for basic health, mental health and substance abuse services, and the other for preventive health services.

"The block grant approach," Dr. Ackerman said, "is a way to give the states greater flexibility to determine their own public health priorities and addressing state needs. Likewise, the AMA believes that major economies will be available because of a major reduction in federal administrative expenses and also in state and provider costs incurred in meeting federal regulatory requirements."

The "cap" and block grant proposals reflect a significant shift in the relative responsibilities of the federal and state governments toward health programs, according to Dr. Ackerman. "The proposals represent the view that states are better able to determine the needs of their citizens and to target program funding to better meet local needs. The proposals also reflect the potential cost savings that can be achieved through an end to rigid, expensive and complex federal requirements."

* * * *

The Association has informed the Congress of a number of areas in the Medicare program where both short and long term savings could be made, but warned "it is essential to exercise extreme caution so as to prevent potential disruptions in the program that would adversely affect the vital medical care of the elderly."

Lowell H. Steen, M.D., Chairman of the AMA Board of Trustees in testimony before the Health Subcommittee of the House Ways and Means Committee, identified certain portions of the program where savings could be found and individuals would not be seriously affected.

"Maximum savings should be generated from increased efficiencies in program administration and reductions in fraud and abuse before benefits are reduced," Dr. Steen said.

* * * *

The AMA also testified twice before the Congress in support of the Reagan Administration's plan to phase out the Professional Standards Review Organizations (PSRO) and to simultaneously eliminate federally-mandated utilization review.

Joseph F. Boyle, M.D., Vice Chairman of the AMA's Board of Trustees, spoke for the Association before subcommittees of the Senate Finance Committee and the House Ways and Means Committee on the growing unrest among physicians over the federal direction and implementation of the PSRO program.

"In supporting termination of the PSRO program, I want to emphasize that the AMA remains a staunch advocate of peer review as a mechanism to assure high quality medical care. However, it is our view that in attempting to federalize peer review the government has misdirected the professional objectives of peer review, i.e., to assure high quality care, and has inappropriately focused the PSRO program principally to contain costs.

"Based upon recently released reports by the Congressional Budget Office, the Health Care Financing Administration, and the General Accounting Office, the ability of the government to use the PSRO program as a cost-saving mechanism is highly questionable.

"The Association recognizes the responsibility of the profession to work to assure quality care for patients undergoing medical treatment in this country. I want to assure you that in the absence of government direction and interference the profession will vigorously renew and strengthen private sector peer review activities."

In conclusion, Dr. Boyle explained the Association's change in position on the PSRO program after nine years of support "as a natural, eventual result based upon the growing dissatisfaction that developed from the often fruitless and frustrating efforts to work with the federal bureaucracy and improve the PSRO program."

Dr. Boyle strongly emphasized that the Association's recommendation for the termination of the PSRO program should not be considered a withdrawal of support for professional peer review of medical service to ensure quality care. "What the AMA is rejecting is a federally directed review program where the federal direction is no longer interested in patient care or quality service, but has become devoted to the single-minded purpose of restricting health expenditures."

* * * *

Medical schools must diversify sources of financial support for medical education in light of prospects for reduced institutional aid from the federal government, the AMA has told Congress.

"While the federal role has been significant in the last decade, medical education has also enjoyed support from various other sectors of society," said C. H. William Ruhe, M.D., a Senior Vice President of the AMA. "It will now be incumbent to increase this latter base of support to assist in meeting funding requirements."

Dr. Ruhe told the House Commerce Subcommittee on Health that medical schools must have sufficient resources to provide education of a high quality, and students must have the resources to meet the costs of the education.

The federal program of aid for medical schools comes up for renewal this year under assault from the Reagan Administration, which is seeking deep cuts. Congress was unable last year to complete action on a new health manpower program.

Dr. Ruhe noted in his testimony that the cost of a medical education today can be staggering with annual tuition figures of more than \$10,000 becoming commonplace. "We are deeply concerned over the financial burdens being placed on students and the impact of high tuition upon new practitioners."

"The AMA believes that medical education must not be allowed to become limited on the basis of income," he said. "Student assistance must be of the highest priority for government action. . . . Without such aid, the potential exists for medical education to become the privilege of the wealthy. The AMA is committed to seeing that financial resources are available to qualified aspiring health professionals."

The AMA official urged a program of guaranteed loans with repayment deferrable through residency training. "Consideration should also be given to interest subsidies for the length of the training, and to setting the rate of repayment to the ability of the individual to repay the principal of the loan."

The AMA also supported continued federal assistance to programs of basic nurse training, but opposed legislation to make the Graduate Medical Education National Advisory Committee (GMENAC) a permanent statutory body.

* * * *

The Reagan Administration budget cuts in health and welfare have survived preliminary skirmishes in Congress, raising hopes at the White House that the lawmakers will go along with the bulk of the economy program.

Spokesmen for groups hard hit by the cuts, however, lined up at Congressional hearings to protest the budget chops, arguing that needed health services will be denied beneficiaries and that vital programs will suffer.

The first round of what is expected to be a session-long battle over the size of the health cuts appeared to be going to the Administration as House and Senate Committees begin to act on the budget resolutions that will dictate overall spending limits they must work within.

President Reagan's proposed cuts in Social Security and programs for the unemployed were adopted in principle by the Senate Finance Committee in the first major test of the Administration's goals. With Republicans voting as a bloc, the Committee voted down a series of Democratic efforts to soften President Reagan's economies for a range of programs, including Medicare and Medicaid.

On the Senate Labor and Human Resources Committee, a Democratic assault on cuts was led by Sen. Edward Kennedy (D., Mass.), who was defeated 9-7 on all but a few of his motions to restore funds for health programs. An 8 to 8 tie vote killed a Kennedy effort to add \$89 million to the \$58 million requested by the Administration for the embattled health planning program, which the Administration wants to kill.

On the House side, the House Ways and Means Subcommittee on Social Security has recommended that the Administration's cut of \$2.4 billion be adopted

* * * *

Medicaid payments to physicians would be raised to the levels allowed for Medicare under a proposal by the National Commission on Social Security.

The bipartisan commission was formed five years ago by Congress to make an exhaustive study of the Social Security System and to submit recommendations for changes to Congress.

In its report, the nine-member commission said "Medicaid's reimbursement rates must be set high enough to encourage the participation of physicians." Not only should Medicaid fees be lifted to the Medicare level, but "the fees of both

programs will ultimately have to be reasonably equivalent to those paid for privately-purchased services, or patients under both programs will be denied access to medical services."

* * * *

The Reagan Administration will not seek to eliminate the Federal Trade Commission's anti-trust authority but is recommending deep cuts in the agency's appropriations. An earlier report that the FTC's antitrust division was imperiled has been denied. Over the next three years, the Administration wants to scale back the FTC's budget from \$78 million to \$41 million. The anti-trust activities of FTC often parallel those of the Justice Department. Many of the FTC's actions against medical and health related organizations involving codes of ethics, advertising, etc., have been FTC antitrust cases.

* * * *

Major drug manufacturers plan a Commission to collect and distribute basic research leads for drugs to treat rare diseases.

Lewis Engman, President of the Pharmaceutical Manufacturers Association, has told Congress that through the Commission's work "every interested scientist and research institution, every society concerned with a rare disease, and every potential sponsor will be able to obtain information about the compounds and research leads of investigators who wish to use this mechanism."

The new Commission on Drugs for Rare Diseases was announced before a hearing of the House Commerce Subcommittee on Health. Engman said 40 products have been marketed since 1970 for use in rare diseases and another 39 have been made available for research on patients.

As examples, he cited Demser (metyrosine) which treats conditions caused by pheochromocytoma, a rare tumor of the adrenal gland; and Vira-A (vidarabine) which treats rare herpes infections of the eyes and brain.

Engman also urged administrative reforms by the Food and Drug Administration to make new drug approval less difficult and costly. The average cost of taking a promising new drug from discovery to market approval today exceeds \$70 million, he said.

* * * *

A sharp decline in the installation of computed tomography (CT) scanners in the past two years may indicate the market is reaching its limits,

according to a study by the Congressional Office of Technology Assessment.

Although critics have blamed government interference for inhibiting scanners, the OTA study said "the real boon to diffusion and use of the CT scanner has been in the government's almost open-ended commitment to pay for CT scans."

The OTA said it is concerned about regulatory

approaches being considered to control CT scanners and other technologies in the absence of definitive scientific information on their efficacy and safety that would permit wise decisions by federal officials or insurance companies.

The U. S. has the greatest number of CT scanners per population, with 1,471 last year.

* * * *



keeping up

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RECENT DEVELOPMENTS IN MEDICAL PRACTICE MANAGEMENT

Presented by James J. Hawkins, *July 20, 8:30 p.m.*, Private Dining Room, Memorial Hospital, North Little Rock. One hour Category I credit. No fee. Sponsored by Memorial Hospital.

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Presented by John Sorenson, Ph.D., *August 10-13, 8:00 a.m. to 5:00 p.m.*, Education II Building, Room G141, UAMS. Twenty-eight hours Category I credit. Sponsored by UAMS.

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Medical Journal Club Meeting, first and third Tuesday, 12:30 p.m. to 1:30 p.m., alternate months, Union Medical Center and Warner Brown Hospital.

Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC Conference Room, 490 West Faulkner, El Dorado.

Psychiatry Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., alternate months, Union Medical Center and Warner Brown Hospital.

Internal Medicine Conference, each Wednesday, 12:30 p.m. to 1:30 p.m., alternate weeks, Warner Brown Hospital and Union Medical Center.

Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

Obstetrics-Gynecology Conference, every Thursday, 12:30 p.m. to 1:30 p.m., alternate weeks, Warner Brown Hospital and Union Medical Center.

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

Surgical Teaching Conference, July 2, 1:00 p.m. to 2:00 p.m., "Injury and Metabolism," AHEC Clinic.

Pediatric Teaching Conference, July 14, 12:30 p.m. to 1:00 p.m., "Adolescent Depression," Washington Regional Medical Center.

OB-GYN Teaching Conference, July 21, 1:00 p.m. to 2:00 p.m., "Endometriosis," AHEC Clinic.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, July 2, 16 and August 6, 20, 1:00 p.m., Conference Room.

Pathology Conference, July 21 and August 18, 3:00 p.m., Conference Room.

Mortality Conference, July 9 and August 13, 3:00 p.m., Conference Room.

Peer Exchange, July: "Kidney Transplant;" August: "Gastroenterology." (Contact VAMC for further information.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, June 10 and July 8, 6:00 p.m. to 12:00 midnight, Human Resources Development Area. Six hours Category 1 credit.

GI Roundup, July 1, 15, 29 and August 12, 26, 12:00 noon to 1:00 p.m., Conference Room #1.

Emergency Medicine Conference, July 8, 22 and August 5, 19, 12:30 p.m. to 1:30 p.m., Conference Room #1.

Morbidity and Mortality Conference, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Surgery Conference, each Thursday except first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1

Anesthesiology Conference, July 16 and August 21, 7:00 a.m. to 8:00 a.m., Dining Room #3.

Case of the Month, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 p.m. to 1:15 p.m., Coffee Shoppe Dining Room #3.

Interhospital GI Problems Conference, first Monday, 6:00 p.m., to 7:30 p.m., Room E155, Education Wing.

Pediatric Conference, first and third Monday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.

Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.

Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.

Cardiology Conference, second and fourth Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Internal Medicine Grand Rounds, each Tuesday, 8:00 a.m. to 9:00 a.m., Education I Auditorium.

Anesthesiology Complications Conference, each Tuesday, 7:00 a.m. to 8:00 a.m., Room 2E04, UAMS Hospital.

Neuroradiology Course, each Wednesday, 4:00 p.m. to 5:00 p.m., Radiology Conference Room.

Radiology Continuing Education Lecture Series, two Wednesdays each month, 6:00 p.m. to 7:30 p.m., Radiology Conference Room.

Residents Anesthesia Seminars, each Wednesday and Thursday, 3:30 p.m. to 4:30 p.m., Room 2E04, UAMS Hospital.

Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m. to 6:00 p.m., UAMS Eye Clinic.

Categorical Course in Radiology, each weekday except Wednesday, 4:15 p.m. to 5:00 p.m.; Wednesday, 5:00 p.m. to 5:45 p.m., Radiology Conference Room.



PERSONAL AND NEWS ITEMS

PHYSICIAN SPEAKERS

Drs. Warren Murry and Malcolm L. Hayward, Jr., of Fayetteville and Dr. Aubrey M. Worrell, Jr., of Pine Bluff were among the speakers for the 1981 spring meeting of the Arkansas Dietetic Association in Little Rock.

NEW PHYSICIANS

Drs. William Flake, Paul Bubak and Mark Bonnell have begun practice at the Northwest Arkansas Health Care Center in Berryville.

SEMINAR PARTICIPANT

Dr. Clark Fincher of Searcy participated in a recent seminar on Advanced Cardiac Life Support at Jefferson County Hospital.

PHYSICIAN RELOCATES

Dr. Sam A. McGuire, a board certified Family Physician, has joined the Forrest View Clinic in Forrest City.

ORTHOPAEDIC NURSING SEMINAR

Drs. Marvin Mumme and James Buie of Fort

Smith discussed advances in arthroscopic procedures during an Orthopaedic Nursing Seminar held recently at Sparks Regional Medical Center.

FORREST CITY GAINS PHYSICIAN

Dr. Donald G. Seibel has announced the opening of his office at 318 East Cook Street in Forrest City. Dr. Seibel specializes in Obstetrics and Internal Medicine.

CANCER EDUCATION MEETING

Walnut Ridge physicians, Drs. S. A. Spades and Stephen K. Wilson, and a Jonesboro physician, Dr. Don Berry, participated in a Public Education Committee Program of the Lawrence County Chapter of the American Cancer Society.

MEMORIAL SCHOLARSHIP

The Helena Hospital Board announced the first "Herschel B. Oldham, M.D., Memorial Scholarship" as a part of the observance of "National Doctors Day." The scholarship was presented to a second-year nursing student at Phillips College School of Nursing.

PROGRAM SPEAKERS

Jonesboro physicians recently participated in the educational program for the annual meeting of the Arkansas State Medical Assistants Society. Dr. Al Rusher spoke on Vascular Disease; Dr. W. T. Rainwater spoke on Recent Developments in Newborn Care; Dr. Glenn Dickson spoke on Operative Arthroscopy, and Dr. Harry J. Jordan spoke on Screening for Colon-Rectal Cancer.

PARAGOULD AND RECTOR HAVE NEW PHYSICIANS

Drs. Clarence L. Kemp and Roger E. Cagle will join Drs. Asa Crow and Mack Shotts in practice at Paragould and at the Rector Medical Clinic.

DR. BACHMAN SPEAKS

Dr. David Bachman, Russellville Surgeon, was the guest speaker for the Stop Smoking Program at Black River Vo-Tech in Pocaliontas.

HELENA PATHOLOGIST

Dr. Francis Patton, formerly of Atlanta, Georgia, has joined the Helena Hospital as resident staff Pathologist.

HOSPICE DONATION

As chairman of the Hospice Board, Dr. Francis Brian of Mountain Home accepted a \$500 donation from the Mountain Home Lions Club to Hospice of the Ozarks.

PHYSICIANS LOCATE IN CLINTON

Dr. Eileen Claire Fitzgerald, a Pediatrician, and Dr. Jose Abiseid, a Family Physician, will begin practice in Clinton in July.

ARTHRITIS SEMINAR

Dr. Guy L'Heureux of West Memphis spoke at an arthritis seminar held at Crittenden Memorial Hospital during Physical Therapy Week.

HOSPICE SEMINAR

Dr. John A. Baldrige of Jonesboro and Dr. Carolyn Wilson of Mountain Home recently participated in a seminar sponsored by Hospice of Northeast Arkansas.

BRINKLEY GAINS PHYSICIAN

Dr. Mike Riddell has joined Dr. N. C. David in Brinkley for the practice of medicine.

CLINIC MOVED

Drs. James C. Callaway and John Giller, Jr., have announced the move of their office, South Arkansas Bone & Joint Clinic, to 705 West Faulkner in El Dorado.

PHYSICIAN RETIRES

Dr. Philip T. Cullen of Little Rock has announced his retirement from the private practice of medicine.

NEW FACILITIES

Drs. Jack T. Fendley, T. Ben Wilson and Michael T. Pilcher have moved their offices to 2011 Fendley Drive in North Little Rock.

PHYSICIAN APPOINTED

Dr. Kenneth K. Wallace of Fort Smith was appointed to a two-year term on the State Board of Dispensing Opticians and was elected chairman of the board. Dr. R. Sloan Wilson of Little Rock was appointed to the board for a one-year term.

NEW PHYSICIAN IN FORREST CITY

Forrest City physicians, Drs. Harold N. Cogburn, Charles E. Crawley and Edward P. Hammons, have announced the association of Dr. Jimmy C. Chang for the practice of Family Medicine and Obstetrics.

WORKERS' COMPENSATION INSTITUTE

Dr. William Blankenship of Little Rock recently participated in the program for the fifth annual Workers' Compensation Institute, a section of the Arkansas Bar Association.



NEW MEMBERS

DR. EUSTACE L. EDWARDS, III

Dr. Edwards, a native of Many, Louisiana, is a new member of the Columbia County Medical Society.

Dr. Edwards attended Louisiana State University and Northwestern State University. In 1976 he was graduated from the Louisiana State University School of Medicine in Shreveport. His internship, Internal Medicine residency and Cardiology Fellowship were with the LSU Medical Center.

A board certified Internist, Dr. Edwards now practices at 105 West North Street in Magnolia.

* * * *

The Crittenden County Medical Society has four new members:

DR. JOHN M. HODGES

Dr. Hodges is a graduate of Mars Hill Junior College, Mars Hill, North Carolina, and the University of South Carolina, Columbia. He was graduated from the University of Tennessee Medical School in 1963. Dr. Hodges served with the United States Army Medical Corps from 1963 until 1967. His internship was at Fitzsimons General Hospital in Denver. Dr. Hodges served residencies with the Veterans Administration Hospital and University of Tennessee Affiliated Hospitals in Memphis.

In 1972 he was an Assistant Professor with the Department of Otolaryngology and Maxillofacial Surgery at the University of Tennessee Medical School. Since 1977, he has held the position of Clinical Assistant Professor with the same institution. Dr. Hodges is certified by the American Board of Otolaryngology.

Dr. Hodges' specialty is ENT and Facial Plastic Surgery. His address in West Memphis is 228 Tyler.

DR. JOEL A. PRICE

Dr. Price is a native of Memphis.

In 1974, Dr. Price was granted a B.S. from the

Arkansas State University. He was graduated from the University of Arkansas College of Medicine in 1978. His internship and residency in Family Practice were with AHEC in Fayetteville.

Dr. Price is now practicing Emergency Medicine with Crittenden Memorial Hospital in West Memphis.

DR. DAN W. WEBB

Dr. Dan Webb was born in Memphis.

Dr. Webb received a B.S. in 1973 from the University of Arkansas. In 1977, he was graduated from the University of Arkansas College of Medicine. His internship and Internal Medicine residency were with the University of Tennessee Affiliated Hospitals. He is board certified in Medicine.

Dr. Webb's specialty is Internal Medicine. His office is located at 228 Tyler in West Memphis.

DR. ROBERT H. ZSCHAPPEL

Dr. Zschappel, a native of Yoakum, Texas, served with the United States Navy Hospital Corps, from 1945 to 1946.

Dr. Zschappel's pre-med education was with the University of Texas and the University of Houston. In 1959, he was graduated from the University of Texas Medical Branch at Galveston.

After a rotating internship at Philadelphia General Hospital, Pennsylvania, Dr. Zschappel served Obstetrical-Gynecological residencies with the University of Texas Medical Center Hospitals in Galveston and M. D. Anderson Hospital and Clinic in Houston. Dr. Zschappel served on the teaching staff of St. Mary's School of Nursing in Galveston and the University of Texas Medical Branch Hospital. He also served as Obstetrical-Gynecological consultant with University of Texas Student Health Center, Austin State School and the Austin State Hospital. He practiced for sixteen years in Austin. He is a diplomate of the American Board of Obstetrics and Gynecology.

Dr. Zschappel's office is located at 200 South Rhodes in West Memphis.

* * * *

DR. JOSEPH B. DUPONT, JR.

The Garland County Medical Society has accepted Dr. Dupont as a new member.

A native of Thibodaux, Louisiana, Dr. Dupont was graduated from the Tulane University in 1969 and Louisiana State University School of Medicine, New Orleans, in 1973.

After an internship at Grady Memorial Hospital in Atlanta, Dr. Dupont served Surgical residencies with Charity Hospital in New Orleans

and M. D. Anderson Tumor Institute in Houston. While in New Orleans, he also served as Clinical Instructor in Surgery with the Louisiana State University Medical Center.

Before moving to Hot Springs, Dr. Dupont practiced one year in Lafayette, Louisiana. He was certified by the American Board of Surgery in 1980.

Dr. Dupont's specialty is General Surgery. His office is at 101 Whittington Avenue in Hot Springs.

DR. ASA M. WARMACK

Dr. Warmack has joined the Hempstead County Medical Society. He was born in Stamps.

In 1974, Dr. Warmack was granted a B.S. by Southern State College. He attended Louisiana Tech University in 1975. In 1979, he was graduated from the University of Arkansas College of Medicine.

After an internship with Baptist Medical Center in Little Rock, Dr. Warmack entered Family Practice. He is associated with Hope Doctors' Clinic, 405 West 16th in Hope.

DR. LINDA HAYNIE-GREEN

Dr. Green, a native of Camden, is a new member of the Jefferson County Medical Society.

Dr. Green received a B.A. degree from the University of Arkansas at Fayetteville. She is a 1974 graduate of the University of Arkansas College of Medicine. After an internship at Harlem Hospital Center in New York City, she served residencies with United States Public Health Systems Hospital in New Orleans, Long Island Jewish Medical Center in New York City and the University of Arkansas Medical Center.

Dr. Green has her office for the practice of Internal Medicine at 1710 Doctors Drive in Pine Bluff.

DR. STEPHEN K. WILSON

Dr. Wilson is a new member of the Lawrence County Medical Society. He is a native of Jacksonville, Illinois.

In 1962, Dr. Wilson was granted a B.A. by Williams College, Williamstown, Massachusetts. He was graduated in 1966 from the University of Illinois College of Medicine, Chicago. After an internship with the University of Illinois Hospital, Dr. Wilson began residency training with the University of Washington. From 1968 to 1974, he served a General Surgery residency with the

University of Illinois. From 1974 to 1976, he served with the United States Air Force at David Grant U. S. Air Force Hospital at Travis Air Force Base, California.

Dr. Wilson was in private practice in Jackson, Tennessee, from 1976 to 1978. He was an assistant professor and associate professor of Surgery with the East Tennessee State University College of Medicine in Johnson City from 1978 to 1980.

Dr. Wilson is a board certified Surgeon. His office is located at 1210 Highway 25 West in Walnut Ridge.

DR. GEORGE D. MULDER

The Sebastian County Medical Society has added Dr. Mulder to its membership roll. Dr. Mulder was born in Grand Rapids, Michigan.

Dr. Mulder was granted a B.A. degree from Hope College, Holland, Michigan, in 1976. He was graduated from the University of Michigan Medical School in Ann Arbor in 1974. His internship and Surgical residency were with the University of Missouri Medical Center in Columbia. While in Columbia, he served one year on the staff of the Harry S. Truman Veterans Administration Hospital and the University of Missouri Medical Center.

Dr. Mulder, a board certified Surgeon, moved to Arkansas in 1980. He is in private practice for General Surgery and Peripheral Vascular Surgery at 912 Lexington in Fort Smith.

* * * *

The Pulaski County Medical Society has added six new members to its roll:

DR. DAVID C. BARNETT

Dr. Barnett was born in Little Rock and attended high school in Jonesboro. His pre-med education was with the University of Arkansas in Fayetteville. He is a 1971 graduate of the University of Arkansas College of Medicine.

Dr. Barnett's internship and Orthopaedic residency were with the University of Arkansas for Medical Sciences. He served as an instructor of Orthopaedics while with the University.

Dr. Barnett is now in the private practice of Orthopaedics. He is associated with Drs. Hutson, Runyan and Peeples at 110 Doctors Park Building in Little Rock.

DR. ROBERT B. CHOATE

Dr. Choate, born at Whidbey Island Naval Air

Station in Washington, is a graduate of Hot Springs High School.

In 1973, Dr. Choate was granted his B.S. degree by Tulane University in New Orleans. In 1977, he was graduated from the University of Arkansas College of Medicine. His internship and Pediatric residency were served with University Hospital and Arkansas Children's Hospital.

Dr. Choate is now associated with The Pediatric Clinic, 516 Pershing Boulevard, in North Little Rock.

DR. WILLIAM D. DENSON

Dr. Denson, a native of Warren, is a 1972 graduate of the Georgia Institute of Technology, Atlanta. He was graduated from the University of Arkansas College of Medicine in 1976. He did his internship and Neurology residency at the same institution.

In 1980, Dr. Denson joined the North Little Rock Neurology Group at 2003 Fendley Drive.

DR. JERRY B. GOOCH

Dr. Gooch was born in Huntington, Tennessee. His pre-med education was with David Lipscomb College, Nashville, Tennessee, and his medical education with the University of Tennessee College of Medicine, Memphis.

After an internship with City of Memphis Hospitals, Dr. Gooch entered a General Surgery residency with Baylor Affiliated Hospitals in Houston. From 1975 to 1977, he served a Cardiothoracic Surgical residency with Texas Heart Institute and M. D. Anderson Hospital and Tumor Institute. He is board certified in Thoracic Surgery.

From 1977 to 1980, Dr. Gooch practiced with the Surgical Group for Thoracic and Cardiovascular Diseases in Memphis. He was a Clinical Professor of Surgery with the University of Tennessee College of Medicine.

Dr. Gooch practices Thoracic and Cardiovascular Surgery at #1 St. Vincent Circle, Suite 160, in Little Rock.

DR. JAMES J. KANE

Dr. Kane, a native of Conway, is a graduate of Hendrix College and the University of Arkansas College of Medicine.

After an internship with the University of Arkansas Medical Center, Dr. Kane served an In-

ternal Medicine Residency at the same institution. From 1971 to 1973 he was in Cardiology residency. Dr. Kane has served as an Associate Professor of Medicine with the University. He is board certified in Internal Medicine and Cardiology.

Dr. Kane specializes in Cardiology. His office is at #1 St. Vincent Circle, Suite 450, Little Rock.

DR. NORMAN ROY PLEDGER

Dr. Pledger, a native of Baroda, India, was graduated from the C. E. Byrd High School in Shreveport, Louisiana. In 1969, he was granted a B.S. by Centenary College of Louisiana, Shreveport. He was graduated from the Louisiana State University School of Medicine in New Orleans in 1973.

From 1973 to 1976, Dr. Pledger served with the United States Army at Martin Army Hospital in Fort Benning, Georgia. While with Martin Army Hospital, he served his internship and Family Practice residency.

In 1979-1980, Dr. Pledger practiced in Huntersville, North Carolina. During that time, he was a preceptor with the Family Practice residency program at Charlotte Memorial Hospital.

A certified Family Physician, Dr. Pledger now practices at 2500 McCain Boulevard in North Little Rock.

* * * *

RESIDENT MEMBERSHIPS

DR. BRUCE A. WHITE

A Family Practice resident with AHEC in Fort Smith, Dr. White is a 1978 graduate of the University of Arkansas College of Medicine.

The Pulaski County Medical Society has added two resident members to its roll:

DR. DENNIS E. GO

Dr. Dennis Go, a 1977 graduate of the University of Arkansas College of Medicine, is serving a Pediatric residency with Arkansas Children's Hospital.

DR. JOHN M. TUNE

Dr. Tune is serving an Internal Medicine-Gastroenterology fellowship. He was graduated in 1976 from the University of Texas Medical Branch at Galveston.





O B I T U A R Y

DR. JULIAN R. FAIRLEY

Dr. Julian R. Fairley of Osceola died April 30, 1981. He was born in Osceola on February 18, 1921.

Dr. Fairley earned his B.S. degree from the University of Arkansas at Fayetteville. He was a member of the Phi Beta Kappa and the only junior to be so honored that year. In 1945 he was graduated from the University of Tennessee Medical School at Memphis. His internship was with John Gaston Hospital in Memphis and his Family Practice residency was in Monroe, Louisiana.

Dr. Fairley was a veteran of World War II. Before returning to Osceola, he practiced in Keiser, Trumann and Luxora. In 1957, he and his brother, Dr. Eldon Fairley, opened the Fairley Clinic in Osceola.

Dr. Fairley was a member of the Board of Deacons of the First Christian Church and had served several terms on the Osceola School Board.

Dr. Fairley is survived by his wife, Mrs. Frances Fairley, two daughters and one son.

DR. FRED H. KROCK

Dr. Fred Krock, a life member and former vice president of the Arkansas Medical Society, died May 2, 1981. He was born July 15, 1900, in Upper Sandusky, Ohio.

Dr. Krock's pre-med education was at Western Reserve University at Cleveland and Leland Stanford University at Stanford, California. He was a member of Sigma XI and Phi Chi at Stanford. In 1925 he was granted his medical degree by Johns Hopkins University. After his internship and residencies at Woman's Hospital in Baltimore, Maryland, Dr. Krock joined Dr. Charles Holt in Fort Smith. In 1933, he and Dr. Holt founded Holt-Krock Clinic.

Dr. Krock was a veteran of World War II. He served on active duty for four years in the South Pacific. Dr. Krock served twenty years with the United States Naval Reserve Medical Corps.

Dr. Krock was certified as a Diplomate of the American College of Surgeons in 1950. A founding member and past president of the Southwestern Surgical Congress, he had also served on the National Council of the Congress. He was a member of the International Society of Surgery.

From 1951 to 1974, Dr. Krock served on the Board of Governors of Sparks Regional Medical center.

Dr. Krock was a past president of the Fort Smith Symphony Association, Noon Civics Club, Albert Pike Numismatic Society and the congregation of the First Lutheran Church. He was the 1965 recipient of the Sertoma Award.

Dr. Krock retired from active practice in 1975. He is survived by his wife, Hazel Josselyn Krock, a son, Dr. Curtis Krock, and another son.

DR. U. LEE SMITH

Dr. Smith of Nashville died April 19, 1981. He was born March 13, 1926, in Memphis.

Dr. Smith was a veteran of World War II and the Korean War. He was a 1953 graduate of the University of Arkansas College of Medicine. He began practice in Nashville in 1956.

Dr. Smith was a member of the American Association of Physicians and Surgeons, the American Academy of Family Physicians and the Arkansas Academy of Family Physicians. He is survived by his wife, Mrs. Amanda Reese Smith, and one daughter.



THINGS



TO

COME

August 6-8

Arkansas Academy of Family Physicians, Annual Scientific Assembly. Camelot Inn/Convention Center, Little Rock. The program is outlined below:

Thursday, August 6

6:30 p.m. Cocktail Party, Camelot Inn

Friday, August 7

7:00 a.m. Registration

8:00 a.m. "Childhood Obesity," Robert Fiser, M.D., Department of Pediatrics, University of Arkansas College of Medicine, Little Rock

10:00 a.m. "Gram Negative Septicemia and Toxic Shock," Charles R. Fernandez,

THINGS TO COME

- M.D., Nalle Clinic, Charlotte, North Carolina
- 12:00 noon Business Luncheon — Congressman Ed Bethune, Speaker
- 1:30 p.m. "Management of Emotional Problems in Late Life," Dan German Blazer, II, M.D., Duke University Medical Center, Durham, North Carolina
- 3:30 p.m. "Pulmonary Disorders With Emphasis on Pre-Op Evaluations," William Mariencheck, M.D., Memphis
- 7:00 p.m. Party at Cajun's Wharf

Saturday, August 8

- 7:00 a.m. Razorback Breakfast — Jim Counce, Speaker
- 8:30 a.m. "Update on Prostatitis," David Mobley, M. D., Houston
- 9:45 a.m. "Prostaglandins," Mr. Peter Malo, M.S., Research Department, Upjohn Company, Kalamazoo, Michigan

- 11:00 a.m. "Convulsive Disorders in Childhood," John M. Pellock, M.D., Medical College of Virginia, Richmond
- 12:00 noon Installation of Officers' Luncheon — Guest Speaker: Sam Nixon, M.D., President of the American Academy of Family Physicians
- 2:00 p.m. "Degenerative Joint Disease and Chronic Pain," Jacques Caldwell, M.D., Professor of Medicine, University of Florida, Gainesville, Florida

For further information, contact Alta Good, Post Office Box 5721, Little Rock; phone 227-4633.

* * * *

August 10-11

"Antibiotic Review — 1981." Third National Conference. Sheraton Washington Hotel, Washington, D.C. For further information, contact Sandy McMillan, 67 Peachtree Park Drive, Suite 221-C, Atlanta, Georgia 30309; phone (404) 351-4525.



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The FACT is that approximately eight million people, or about 5 percent of the U.S. adult population, will use me during the current year. By contrast, the national health examination survey (1971-1975) found that 25 percent of the U.S. adult population experiences moderate to severe psychological distress. Additionally, studies of patient attitudes revealed that most patients have realistic views regarding the limitations of tranquilizers and a strong conservatism about their use, as evidenced by a general tendency to decrease intake over time. Finally, a six-year, large-scale, carefully conducted national survey showed that the great majority of physicians appropriately prescribe tranquilizers.

Some people feel that patients being treated with anxiolytic drugs are "weak," can't tolerate the anxieties of normal daily living, and should be able to resolve their problems on their own without the help of medication.

The FACT is that while most people can withstand normal, everyday anxieties, some people experience excessive and persistent levels of anxiety due to personal or clinical problems. An extensive national survey concluded that Americans who do use tranquilizers have substantial

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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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Disulfiram Toxicity — A Review of the Literature

J. Doyle Wise, M.D.*

Alcoholism is a major world health and social problem and causes severe disruption in the physical, mental and social well-being of those affected with the disease. No one working in the field or involved in the treatment of alcoholics would disagree with this statement. The treatment of this illness is medical, psychiatric, social and spiritual. In recent years a form of aversion therapy, Disulfiram, has been popular as an adjunct to other treatment. With this partial review of the literature I would like to accomplish three things: (1) increase my knowledge and that of the Alcohol Treatment and Rehabilitation Unit staff about the drug Disulfiram, (2) answer the question, "Is Disulfiram safe to use?", (3) answer the question, "How long may Disulfiram be used safely?". This paper will review the literature for the past ten years, except for a few historical references.

Disulfiram Absorption and Metabolism

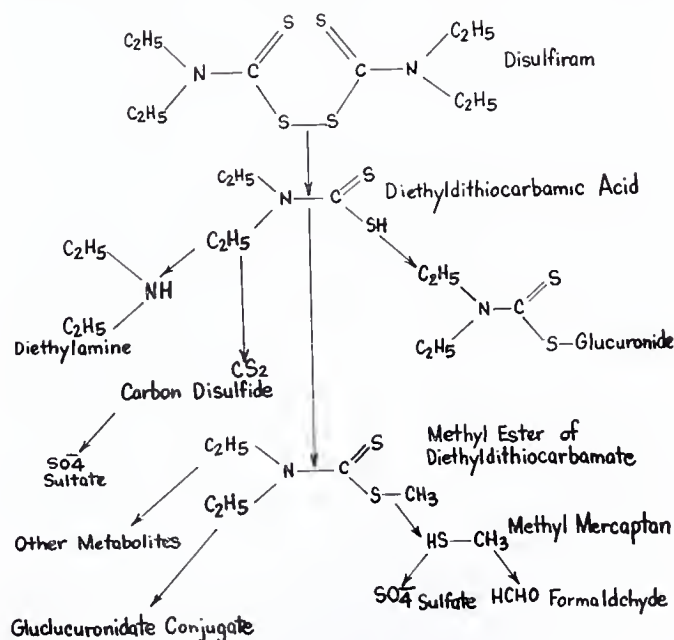
Disulfiram or tetraethylthiuram disulfide (TETD) is rapidly absorbed from the human gastrointestinal tract. Disulfiram is rapidly split in the serum¹ to diethyldithiocarbamate so that probably no disulfiram exists in the serum. Disulfiram requires approximately 12 hours for its full action, perhaps because its high fat solubility allows its metabolites to accumulate in lipid deposits. Disulfiram has been reported by various authors to be eliminated slowly (6-to-12 days),⁵ and rapidly, 24 hours.³ It is uncertain at present whether this represents difference in patient metabolism or deficiencies in detection of metabolites.

It appears that 80-to-95% of an ingested dose of disulfiram is absorbed from the gastrointestinal tract. The drug is rapidly distributed to the liver, spleen, adrenals, lipid deposits and brain. Disulfiram is metabolized¹ to diethyldithiocarbamate or forms of mixed disulfides with the sulfhydryl group of tissue proteins.

These disulfides can be reduced to diethyldithiocarbamate, regenerating the original proteins. Diethyldithiocarbamate breaks down to carbon disulfide and diethylamine, which can be further metabolized by conjugation, methylation and sulfoxidation. The products of these complicated series of reactions include carbon disulfide, carbonyl sulfide, diethylamine, proteins containing mixed disulfides, sulfates, glucuronides and methylated sulfur compounds.

Disulfiram — Alcohol Reaction

Disulfiram was first introduced in the treatment of alcoholism in the late 1940's, although organic sulfur compounds of this type were known since the early 1800's. They were introduced into medicine in the late 1930's, as treatment for internal worms. The reaction of disulfiram with alcohol was discovered somewhat accidentally by Hald and Jacobsen,⁴ in 1948, during the course of their investigation into new medications for internal parasites. Investigations of the alcohol-disulfiram reaction in animals indicated that this combination caused an increase in circulating acetaldehyde, the level of which



Metabolism of Disulfiram (1)

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was dependent upon the dose of disulfiram and the amount of alcohol ingested.⁶ This increase in acetaldehyde was found to be due to a delay in its metabolism by inhibition of acetaldehyde dehydrogenase. If a person drinks alcohol after a loading dose of 1.5 gm. of disulfiram on the previous day, a distinct clinical syndrome characterized by erythema, a sensation of warmth, diaphoresis, palpitations, dyspnea, hyperventilation, tachycardia, headache, hypotension, pallor, vertigo, weakness, nausea, vomiting and ECG changes, including flattening of T-waves and ST segment depression develop.¹⁻⁷ The amount of alcohol in a dose of cough syrup or an alcohol rubdown have been known to precipitate a reaction.

Originally, the alcohol-disulfiram reaction was thought to be solely due to the accumulation of acetaldehyde. However, further studies^{8,9} indicated that the disturbances seen in the circulatory and other body systems result from more than just the accumulation of acetaldehyde. During the disulfiram-alcohol reaction, there is an accumulation of blood acetaldehyde ranging from 0.6 to 2.5 mg. per 100 ml., depending on the dose of the two drugs. However, injection of similar amounts of acetaldehyde into the circulatory system does not reproduce the disulfiram-alcohol reaction exactly in subjects not pretreated with disulfiram. Injection of acetaldehyde usually causes hypertension rather than hypotension and vasodilation seen in the disulfiram-alcohol reaction. Pretreatment with disulfiram will reverse some of the circulatory effects of acetaldehyde and produce a more typical disulfiram-alcohol reaction.¹⁰ Attempts to explain this inconsistency have, recently, focused on the demonstrated¹¹ effects of disulfiram on catecholamine metabolism through inhibition of dopamine beta hydroxylase (DBH). This "extra factor" may be depletion of norepinephrine by the action of disulfiram and its metabolites on DBH and the added depleting action of acetaldehyde and alcohol in an individual incapable of prolonged sympathetic activity. It has been demonstrated by several authors^{1,2,12,13,14} that epinephrine and norepinephrine are both decreased during disulfiram therapy. However, both Dopamine and homovanillic acid are also decreased, a result not expected with DBH suppression alone. Alcohol has an effect on biogenic amine metabolism^{15,16} unrelated to other drugs, so it seems likely that

the disulfiram-alcohol reaction may be due to properties of the two drugs acting together rather than either one separately. The jury seems to still be out on the exact nature of the biochemical reactions produced by these two drugs.

Disulfiram Toxicity

When Jacobsen first reported the use of disulfiram in 1948 it was reported to be extremely safe and subsequent early reports were enthusiastic. A common practice was to give all alcoholics one or more "test" reactions with alcohol to demonstrate the potency of the medication.¹⁷ From these reports, accidental Antabuse-alcohol reactions, and promotion by the pharmaceutical industry, the deterrent aspects of the Antabuse-alcohol reaction became well-known. It was used then and still is being used in non-medical settings without adequate supervision because the toxic effects of disulfiram alone were either not known or were overlooked.

The toxic effects of disulfiram include depression, lethargy, loss of libido, psychoses, delirium, meningeal signs, unilateral weakness, optic neuritis, peripheral neuropathy, liver disease, cardiovascular abnormalities, endocrine dysfunction, peripheral muscle weakness, acute organic brain syndrome, dermatitis, ataxia, motor incoordination, unpleasant garlicky taste or odor and coma. These symptoms have been divided into mild, moderate and severe toxicity by Rainey² and, although I would dispute his placement of some of the symptoms, it is still a useful concept. He includes in mild toxicity symptoms such as garlicky taste and dermatitis, depression, drowsiness, headache, lethargy, loss of libido, disorientation, fluctuating levels of consciousness, impairment of recent and remote memory and acute schizophreniform psychosis. He further relates this to a dose of disulfiram of 0.25 to 0.5 grams per day for several months or 0.5 to 1.50 grams per day for two weeks. In moderate toxicity, he states, you may find the signs of mild toxicity, plus ataxia, motor incoordination, optic neuritis, and peripheral neuropathy. Many of these findings seem to fluctuate in their occurrence or severity.¹⁸ Meningeal signs, unilateral weakness, hyperreflexia, and positive Babinski responses may vary greatly in their intensity over a period of 24 hours. Moderate toxicity may occur with disulfiram doses of 0.25 to 0.5 grams per day for a month, 0.50 to 1.50 grams per day for weeks-to-months, and 1.5 to 3.0 grams per day for two

weeks. Severe disulfiram toxicity has been reported principally in children¹⁹ who take large amounts in a single dose. There was one report from the foreign literature of an adult drug abuser taking large doses for its sedative effect with subsequent severe toxicity. Within a few hours after a large dose, the patient becomes drowsy, then comatose. This is accompanied by persistent nausea, vomiting, combative and psychotic behavior and ascending flaccid paralysis which can include the cranial nerves but apparently does not affect the respiratory musculature. The paralysis and other symptoms may resolve in several months but permanent intellectual impairment may occur. Severe poisoning can follow the ingestion of as little as 2 grams in a child or 5 grams in an adult. The one case I found of poisoning in an adult resulted from an ingestion of 1.5 to 3.0 grams per day for several weeks.

It seems apparent that the onset and severity of toxic manifestations to disulfiram depend on time and dose. Another variable is mode of administration. In this country, the oral route has been used exclusively, but, in Europe and Canada disulfiram implants have been utilized.²⁰ The toxic symptoms with implants are slower and generally confined to allergic reactions,²¹ and rejection of the implants. The implants are usually placed in the lower abdominal wall with a trocar, utilizing local anesthesia and employing sterile 100 mg. disulfiram tablets. A dose of 500-2000 mg. has been used but it has been reported that doses larger than 800 mg. did not increase the effectiveness of the procedure. Bell,²² editorializing in a Canadian journal, commented that this was probably the right treatment but the wrong drug. I would question the concept of this mode of treatment because the blood levels obtained from implants are too low to offer an effective deterrent. A British investigator, Malcolm, reported disulfiram-alcohol reactions were likely to occur with disulfiram blood levels greater than 0.15 mg., per 100 ml., and showed that oral disulfiram provided levels between 0.15 and 0.80 mg., per 100 ml., while levels in excess of 0.1 mg. per 100 ml. were present in only 5 of 55 implant patients. Placebo effect, then, is the most likely benefit derived from implantation.

Disulfiram Neurotoxicity

Disulfiram has been associated with many disorders of both the central nervous system and

peripheral nervous system. Among these are acute organic brain syndrome,²³ encephalopathy,²⁴ peripheral neuropathy,^{18,25} optic neuritis,²⁶ psychoses,²⁷ and convulsions.²⁸ These disorders have been associated with doses of disulfiram in the 250 to 500 mg. range, usually, but not always, after several months therapy. A problem has arisen in recognition of these states, since many of them, particularly in their early stages, mimic some of the disabilities accompanying alcohol addiction. Disulfiram's effect on the biogenetic amines, especially its inhibition of DBH, has been offered as an explanation. The theory is that, with a suppression of DBH, relative decreases in epinephrine and norepinephrine and increases in DBH in the brain, psychotic episodes ensue. This is in agreement with the dopamine hypothesis of schizophrenia. However, there are other factors present, since we have seen from Serebro's work,¹¹ that dopamine, norepinephrine and epinephrine are all decreased with disulfiram. Other ideas came from experience with workers in the Viscose Rayon Industry.

These workers are exposed to high atmospheric levels of carbon disulfide and, with prolonged exposure, may develop symptoms similar to those found in disulfiram neurotoxicity.²⁹ Carbon disulfide is one of the metabolites of disulfiram and may be detected on the breath of individuals taking disulfiram. A group of industrial health physicians³⁰ suggested using disulfiram as a test to determine susceptibility to carbon disulfide in Viscose Rayon workers. There seems to be at least a superficial relationship between levels of carbon disulfide produced by disulfiram metabolism at dosage levels of 250-500 mg. and atmospheric carbon disulfide inhalation by Viscose Rayon workers. Symptoms produced in the two instances are also strikingly similar. Toxic psychosis from disulfiram therapy cannot be controlled with phenothiazines but does subside in weeks or months after disulfiram has been discontinued. Individuals with a history of schizophrenia or affective psychosis, a family history of psychosis or a known defect of biogenetic amines are probably more vulnerable than the general population to disulfiram-induced-psychosis.

Disulfiram-induced peripheral neuropathy and optic neuritis result in axonal degeneration rather than segmental demyelination, affects both the motor and sensory nerves, clears slowly when

the drug is discontinued and may have permanent sequelae. Peripheral nerve injury may be confused with continued alcohol addiction and seems to be the result of direct toxic action of disulfiram metabolites on the nerve tissue.

Disulfiram Hepatotoxicity

Disulfiram as a cause of liver injury, unrelated to alcohol, was not recognized during the first 20-to-25 years of this drug's use as an adjunct to alcoholism treatment. In 1974, Keefe and Smith³¹ reported a case of liver injury due to disulfiram. In 1975, Howard and Kins³² reported another case and other instances of disulfiram-induced hepatotoxicity continued to be recognized until at present there are some 19 well-documented cases in English language literature, three of which came from the North Little Rock Veterans Administration Alcohol Treatment and Rehabilitation Unit.³³ It seems that liver injury of varying degrees from disulfiram therapy may be more common than is presently recognized. The difficulty in detecting drug-induced liver disease in a population with a high prevalence of alcohol-related hepatic dysfunction is well appreciated.

Several explanations have been advanced for this hepatic toxicity. That disulfiram inhibits the metabolism of other drugs, example, INH, Rifampin, Dilantin, is well-established;^{34,35} hence, an effect on both the aldehyde dehydrogenase-nicotinamide adenine dinucleotide system and the mitochondrial systems has been postulated. Two Spanish pathologists³⁶ found evidence of cell necrosis, inclusion bodies (Lafora's bodies), similar to those found in myoclonus epilepsy and evidence of break-down of smooth endoplasmic reticulum in alcoholics treated with disulfiram. Two population groups have been theorized: a group of slow acetylators who do not seem to be as susceptible to disulfiram-hepatotoxicity as a second group of rapid acetylators.³³ Allergic responses and liver dysfunction secondary to carbon disulfide has been offered as possible explanations since both these disorders are seen as a response to carbon disulfide in Viscose Rayon workers.

Disulfiram hepatotoxicity occurs between two and twenty-five weeks after beginning therapy. According to Goyer and Major,³⁷ this is most easily recognized with the alkaline phosphatase and SGOT. They, however, found no statistically significant differences in the mean levels of values

obtained from the standard SMA 6/60 and 12/60, at three weeks, between disulfiram treated patient and controls. They concluded that the sub-clinical toxicity seen in some patients were idiosyncratic. The hepatic toxicity clears within 2-to-3 weeks after the drug has been discontinued, unless the illness has progressed to profound damage and coma.

Disulfiram Cardiovascular Effects

Chronic exposure to carbon disulfide in Viscose Rayon workers has been shown³⁰ to increase serum lipids, serum cholesterol and serum triglycerides, resulting in increased atherosclerosis, myocardial infarctions and decreased longevity. Disulfiram has been shown²⁹ to produce levels of carbon disulfide comparable to those seen in Viscose Rayon workers, so the likelihood that disulfiram has a similar effect in these areas is inescapable. Disulfiram in high doses (120 mg., per kilogram) for seven days was found to induce myocardial and skeletal muscle degeneration in rabbits.³⁸ Disulfiram was shown³⁹ to significantly increase serum cholesterol in human volunteers taking 500 mg. for three weeks except in those protected by a daily dose of 50 mg. of Pyridoxine, suggesting that disulfiram may be causing a pyridoxine deficiency. These areas need more study, especially considering the tendency toward long-term disulfiram therapy.

Disulfiram With Other Drugs

Disulfiram inhibits the metabolism of many drugs. Among these are Dilantin, Rifampin, INH, Warfarin and Phenobarbital. Less well-known are the dangers of general anesthetics in disulfiram-treated patients. Four cases of serious, life-threatening hypotension⁴⁰ have been reported from the Netherlands after induction with Thiopental, Succinyl choline for endotracheal intubation and maintenance with either Halothane or Enflurane and Nitrous oxide.

Dermatoses Due to Disulfiram

Nonspecific rashes have characterized both disulfiram-treated patients and Viscose Rayon workers. Acneform eruptions, generalized maculopapular rashes and increased sensitivity to synthetic rubber products⁴¹ are seen in both instances, suggesting carbon disulfide as the common factor.

Endocrine Effects of Disulfiram

Little could be found in the literature concerning disulfiram effects on the endocrine glands.

With the demonstrated effects of disulfiram on the biogenic amines and the loss of libido experienced by disulfiram users, an effect on the adrenals and anterior pituitary would be expected. Disulfiram is a sulfur-containing compound similar to those used experimentally to induce hypothyroid states so that an effect on the thyroid gland would not be inconceivable.

Miscellaneous Effects of Disulfiram

Disulfiram has been reported to cause blood pressure elevations, negative effects on growth and longevity in rats, limb reduction anomalies in both human and mouse feti, and dermatitis to coal tar preparations. It has been said to cure psoriasis and deactivate certain colon carcinogens. It is also the presumed source of unpleasant odors seen in several colostomy patients as reported in the literature.

Conclusion

In reconsidering the goals established at the beginning of this paper, the answers seem to be yes, no, and maybe. My knowledge about the drug disulfiram has certainly been increased, but I do not think the question as to the safe time limits on disulfiram has been answered. Disulfiram has many undesirable physiological effects, unrelated to the disulfiram-alcohol reaction. I feel it may be useful as an adjunct in alcohol treatment provided there is adequate, knowledgeable and continuing medical supervision.

I do not believe that disulfiram alone is adequate treatment for alcoholism. In our program at NLRVA, a limit of one year is placed on disulfiram therapy, during which the patient has completed an inpatient program of 30 or more days, remained active in outpatient therapy group and is encouraged to attend Alcoholics Anonymous! I feel that the alcoholic needs to develop "tools," i.e., a change of attitude, new ways of handling living problems and family situations, and a change in life style, in order to maintain his sobriety. Aversion therapy such as disulfiram will not allow him to accomplish these goals but may be useful to "buy time" while he is working on these goals. A year is probably long enough to begin this change process and I doubt that a second year on disulfiram would increase its effectiveness. The procedure followed in the Alcohol Treatment and Rehabilitation Unit for placing and maintaining patients on disulfiram is as follows: 1) Each patient has an initial his-

tory and physical examination with complete lab data consisting of CBC, differential, urinalysis, SMA 6/60, SMA 12/60, chest film and ECG. 2) A staff member explains the alcohol-disulfiram reaction in detail and gives advice on drugs and foods to avoid while taking disulfiram. 3) The patient is asked to report to medical personnel any rashes or other illness they may encounter while on disulfiram. 4) SMA 6/60 and 12/60 are repeated at three weeks while in the program, eight weeks into the outpatient program, and every 12 weeks thereafter while on disulfiram. 5) The patients active in outpatient therapy groups are eligible to receive medical services in an outpatient medical clinic which meets weekly.

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State of the College University of Arkansas College of Medicine

June 1980

Thomas Allen Bruce, M.D., Dean*

Twelve months ago I had genuine concern that 1979-80 would be an anticlimactic year after the numerous special activities associated with our 1978-79 centennium. Not so at all, and on reflection the current year may even have been more special and more productive than any year before. Overall it has been a time for reassessment and for redefinition of College missions. Dr. Harry Ward has been responsible for most of this self-study as part of his inaugural year as Chancellor, and I can honestly say that at this time he appears destined to become the strongest and best University medical chancellor in America.

As we prepare for the upcoming accreditation visit this next January, the particular strengths and weaknesses of the College are more and more visible. We have a number of very strong points as a medical school, and we have some areas in which I think we may receive criticism from the accreditation team.

Five years ago an exhaustive Delphi study was undertaken to determine those missions and goals which had sufficient consensus to achieve priority in setting the path for medical school development in Arkansas for the last half of the 1970's decade. We now are nearing the culmination of that effort and academic year 1980-81 will be the fifth year of our five-year plan for development. Four missions were deemed preeminent in the current plan: 1) To produce the number and the kinds of physicians needed in Arkansas, 2) To assist rural and urban practitioners to practice highest quality medicine by an expanded continuing education program, 3) To broaden our base of teaching facilities by offering a wider range of patients, and 4) To upgrade our academic environment through new efforts in basic and applied biomedical research and scholarship.

A. We clearly have made major progress in our first and most important mission in training doctors that are tailored to the needs of Arkansas. Every year for the past five years we have expanded the total number of students enrolled in the medical school. See Table I.

B. For the past five years (including 1980-81) we steadily have been expanding our postdoctoral

training programs (internship and resident physician education). Accordingly, we now have reversed one of the most embarrassing problems of the last three decades, the "brain-drain" of physicians out of Arkansas. For the past two years we have seen a net INFLUX of well-trained physicians into the state, surely a most rewarding and long-sought phenomenon. See Table II.

C. An emphasis on training general (primary care) physicians rather than subspecialists was adopted because of the particularly severe needs for doctors in small towns around the state. More than two-thirds of our medical graduates have entered primary care disciplines over the past three years, giving Arkansas national visibility in its success in this arena. An analysis during our centennial year (1979) showed that of the 1,335 Arkansas medical graduates practicing currently within this state (out of approximately 1,900 total practicing physicians) the breakdown of specialties is shown in Table III.

D. An emphasis on quality medical graduates was deemed especially important if we had the

Table I.
**Total Enrollment of Predoctoral
Medical Students Over Five Years**
*Enrollment**

1976-77	484
1977-78	499
1978-79	514
1979-80	529
1980-81	544

*Not counting repeating students.

Table II.
**Total Number of Interns, Residents and
Fellows in Year-Long Postdoctoral Medical
Education Programs in Arkansas
(UAMSC and AHEC)**

1971-72	185
1972-73	203
1973-74	210
1974-75	227
1975-76	265
1976-77	329
1977-78	321
1978-79	342
1979-80	363
1980-81	380

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intent of placing these doctors in relatively isolated practice sites in small towns and rural communities. A recent analysis of the success of Arkansas candidates in passing the FLEX (the only universally accepted comprehensive examination for medical licensure in the 50 states) shows that we consistently have a higher first-time pass rate (90.9%) than surrounding states (Texas, Louisiana, Mississippi, Tennessee, Missouri) or of all U. S. graduates combined (85.5% pass) and of foreign medical graduates (46.7%); score for all U. S. medical students.

E. Our success in expanding programs in continuing education (Table IV) has received the positive and enthusiastic endorsement of the state practicing physicians, and as a result we have few vestiges of the town/gown problem that plagued our school for so many years and that continues

to be a problem at many other medical schools. One of the most popular services is the free telephone consultation service, the "MIST line" which allows every doctor in the state to gain instant access to our top faculty clinicians for advice about care for the patients at home, in the office, or in the local hospital.

- F. Other areas of strength are, in outline form:
- a solid, hard-working and dedicated teaching faculty with increasing visibility
 - our new Ambulatory Care Center
 - prospects of the most exciting VA teaching hospital in America on our campus
 - future total renovation of the Fort Roots VA facility for psychiatric care, rehabilitation and one of the nation's best programs in geriatric medicine
 - coming availability of an expanded Children's Hospital/Clinics for all Arkansas
 - the marvelous resource of the AHEC's in support of our teaching programs in primary care
 - the continuing prospect of development in the field of basic and clinical toxicology and environmental health because of the contiguity of the National Center for Toxicological Research
 - the ever present potential of capitalizing on a unique radiation therapy center at CARTI in order to develop a much-needed comprehensive cancer center in Arkansas
 - potential of an Institute for Nutritional Research
 - new chairs in Psychiatry, Child Psychiatry, Gastroenterology and Family Medicine
 - medical student resource/conference room in the college administration area, furnished by our alumni in the Arkansas Caduceus Club
 - dedication of the Robert Watson History of Medicine Room in the UAMS Library
 - a growing tradition of gifts, contributions, and awards to our College/students from the graduating senior class, our patients, the Parent's Club, the Arkansas Medical Society, other professional organizations, and friends from around the state
 - one of the most innovative state outreach programs in any medical school, through the office of Research in Medical Practice (Richard Norton), the Office of Community Medical Affairs (Bill North), the Office of Rural Programs Development (Dr. Ben Saltzman) and most re-

Table III.

Practice Specialty of All Arkansas Medical Graduates Practicing in the State in 1979

<i>Primary Care Specialties</i>		
Family Practice	545	(40.8%)
Internal Medicine	134	(10.0%)
Pediatrics	71	(5.3%)
<i>Medical-Surgical Subspecialties</i>		
Psychiatry	73	(5.5%)
Radiology	70	(5.2%)
General Surgery	67	(5.0%)
Ob/Gyn	64	(4.8%)
Ophthalmology	58	(4.3%)
Anesthesiology	46	(3.4%)
Pathology	39	(2.9%)
Orthopaedics	35	(2.6%)
All Other	133	(10.0%)

Table IV.

Physician Registrants in UA College of Medicine — Sponsored Courses in Continuing Medical Education*

1972-73	57
1973-74	298
1974-75	534
1975-76	1071
1976-77	1542
1977-78	1600
1978-79	2248
1979-80	(Data incomplete: year ends 9/1/80)

*Does not include regularly scheduled and accredited conferences attended by practicing physicians around Arkansas (1978-79 had approx. 14,500 physician registrants).

cently of the Office of Statewide (Public) Health Education (Dr. Runyan Deere)

- the genuine support of the Governor's Office, with a growing appreciation of our unique problems and national stature in the state legislature
- outstanding new leadership in Mr. Carl Fischer in rebuilding our teaching flagship, the University Hospital
- new directors of the vital support programs in campus fiscal affairs (Mr. Bill Goodman) and in the University Relations and Development Office (Mr. John Coffin)
- dynamic and progressive new direction for the faculty group practice organization, The Medical College Physician's Group (Dr. James Tally)
- prospects of much greater computer availability this next year on the DEC-10 facility as the business operations shift to the new IBM computer
- prospects of a new parking deck at the end of this next year which will more than accommodate for the lost parking in the VA Hospital site and will provide decent parking for the first time ever for our patients and visitors.

Weaknesses of Current Program, Including Special Needs

We have not met well to date our goals for improving the image of University Hospital as a major medical resource center for all the state's citizens, regardless of ability to pay. Our range of sophisticated services has been hampered by several problems: a) a too rigid state personnel classification system which penalizes University and other state employees unduly and leaves the entire institution at the mercy of others who key their wages on the state pay plan. Needed urgently is an automatic leveling scale (or at least the administrative authority to make critical adjustments) to prevent the destructive competition which we have witnessed over the past few years, not only in clinical care personnel such as nurses and laboratory technicians, but in the vast majority of support personnel such as medical secretaries, computer center personnel, financial managers and assistants, carpenters, electricians, etc. b) Another deficit has been hospital facilities and equipment. We do not have enough intensive care wards to care for the specially difficult cases

referred to us for care; we do not have the diagnostic labs for heart, lung and intestinal problems that are available even now in other community hospitals; we have not had adequate funds to renovate completely the old laboratories in the Education I building so that we can relocate the faculty offices that continue to clog the hospital and reduce its efficiency. The Emergency Room and the morgue in the past year have been publicly recognized as sadly inadequate.

Perhaps most of all we have failed in our efforts to compete for additional Federal grant funds to support biomedical research. It is possible that our priorities emphasized too strongly the goals of primary care education or expanding the predoctoral and postdoctoral educational programs. Maybe we put too much effort into an attempt to improve our public services and medical care activities. Or it is conceivable that we simply did not emphasize enough the importance of scholarly research if we are to grow as an academic medical center.

We have not been able to complete the development of our primary care educational program. A small faculty in the primary care disciplines is charged with instruction for a very large number of our students, interns and residents. We critically need primary care teachers who can provide more instruction in nutrition, preventive care, rehabilitation care, psychosomatic illness and care of the elderly. We urgently need a new clinic facility for the Family Practice program which is based in Little Rock.

What funds were available for faculty growth and development over the past few years have been committed to the support of an expanded class size. We have had a priority goal to strengthen our basic sciences instructional faculty during the last biennium, and to upgrade the core clinical faculty in the present biennium. This core clinical faculty exists almost entirely in the traditional specialty departments (Internal Medicine, Surgery, Obstetrics, Pediatrics, Radiology, and Pathology) which collectively are at the heart of the clinical instructional program. *Still waiting* is the needed expansion of the primary care faculty, and this is a simple reflection of the funds which are available for faculty development.

In Arkansas, the number of students enrolled per faculty member (1.8:1) is significantly higher

than the national average. These student numbers DO NOT INCLUDE our expanding numbers of interns and resident physicians who are completing their training in the state.

Summary: The University of Arkansas College of Medicine is stronger now in its overall spectrum of student and faculty programs than at any time in its history. We have achieved an outstanding reputation for dealing effectively with

societal issues in health care and with leadership in training the kinds of physicians needed in a predominantly rural state. We have yet to realize the potential of national visibility in geriatric medicine, rural medical care, clinical and basic toxicology, and human nutrition that are so natural to our environment but forces are underway to develop these activities more actively in the year which lies ahead.



Hyperthermia in the Treatment of Cancer¹

Max L. Baker, Ph.D., and Charles D. Mabry, M.D.*

Introduction

For many years physicians have observed the "spontaneous" remissions of tumors. Often times these remissions follow a period of elevated temperature, i.e. fever, in the patient. These observations led several physicians to investigate the artificial induction of fever as a means of treating cancer.^{1,2} Before the turn of the century, Coley was experimenting with the injection of streptococcus culture from erysipelas patients as a means of inducing fever.² In a group of 38 patients who had either accidental or deliberate infections with erysipelas and associated high fever, 12 had total disappearance of their tumors, and 19 showed some improvement.

Since Coley's initial work, sporadic investigations of heat therapy have continued.^{3,4} Only in recent years, however, have concentrated studies of the efficacy of heat as a mode of cancer therapy been undertaken.⁵ The relatively recent development of highly accurate means of producing and measuring heat have resulted in a renewed interest in the use of hyperthermia in the treatment of cancer.

Biological Basis

Hyperthermia, by its simplest definition, is any temperature above normal. Most workers consider the upper limits of hyperthermia to be the temperature where acute organ damage begins. Thus, for most mammals, including man, the range for hyperthermia is from 37°C to approximately 45°C. With some exceptions, the practical range for most cancer treatments seems to be 40°C-43°C. Tissue culture and animal data suggest that a differential sensitivity exists between normal and malignant tissue up to 42°C-43°C, and then diminishes at higher temperatures. Also, the limited human experience suggests that 42°C may be the maximum tolerable temperature for normal tissue without damage, at least for lengthy exposures.⁶ When the heat may be localized to the tumor volume, higher temperatures can be used, however.

The mechanism of hyperthermic tumor damage is not known. Heat appears to damage the vascu-

lature of tumors, causing a preferential heating of malignant tissues when compared to normal tissues. This preferential heating results in a marked necrosis of the tumor tissue.

While there is some evidence for the use of heat alone in the treatment of cancer, the best use of heat may be as an adjunct to other, more conventional, modes of therapy, such as radiation or chemotherapy. There is a good biological reason for combining hyperthermia with ionizing radiation. Hypoxia does not confer protection against heat as it does X-ray. Indeed, hypoxic cells may be more sensitive to elevated temperatures due to their pH and nutritional status. The age response function for cell killing by heat complements that for X-rays, so that the two modalities may be usefully combined. And finally, areas of normal tissue previously treated with X-rays can be treated with heat, when retreatment with radiation would produce unacceptable late effects.⁷

Some combinations of chemotherapeutic agents and heat also seem to provide responses in cancer treatment. Some of the nitrosoureas, bleomycin and cis-platinum can be effectively combined with heat. Alternatively, adriamycin and actinomycin-D seem to offer no such advantages when used with hyperthermic treatment.⁸

Clinical Applications

Hyperthermia may be applied to relatively small volumes in treating localized disease, or used whole body to deal with widespread disease. The volume of tissue being treated, to some extent, determines the method of inducing hyperthermia. In the treatment of localized disease, extremity perfusion, microwaves and ultrasound have all been used successfully. Whole body heating techniques include immersion in molten wax baths, the use of temperature controlled hot water blankets and suits (i.e. space suits) and whole body perfusion.

A fairly extensive literature exists reporting the use of all these modalities of hyperthermia either alone or in association with ionizing radiation or chemotherapy for the treatment of cancer. To this time, the majority of these studies have been small, and in many cases largely anecdotal, consisting only of case reports. A few of the studies do warrant mentioning at this time, however.

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Regional Hyperthermia

Stehlin and his colleagues have utilized extremity perfusion techniques for the treatment of malignancies for several years.⁹ Since the late 1960's their techniques have involved perfusing the limb with heated blood and chemotherapeutic agents, primarily melphalan. In their procedures the blood temperature is raised to 43.3°C (110°F) and then adjusted to maintain a tissue temperature of 38.8°C to 40°C (102°F-104°F). This temperature is then maintained for 2-3 hours.

These workers have reported on a seven-year experience with 185 hyperthermic perfusions for the treatment of 165 patients. For patients with stage I melanoma, the five-year survival rate was 83.5%. With other, more advanced stages, the combined five-year survival rate was 48.2%. These figures represent an approximate three-fold increase in survival over non-heated patients.

Kim and Hahn have also used regional hyperthermia in the treatment of malignant melanoma.¹⁰ They utilized 27.12 megaHertz radio-frequency heating in combination with radiation therapy. In a small group of patients undergoing this treatment, 16 out of 18 lesions (in nine patients) showed a complete response, whereas only one out of eight lesions (in five patients) had a permanent regression after radiation alone.

Hornback and his co-workers have utilized combined 434 megaHertz microwave therapy and radiation therapy on a group of 70 patients with advanced cancer of a variety of cell types.¹¹ Of the 21 patients who completed the planned course of treatments and were eligible for a minimum of nine-month follow-up, 90% experienced complete relief of symptoms. Complete regression of all localized tumors occurred in 80% of the patients, and nine patients (45%) remained free of disease at nine to 14 months.

Hahn and Marmor have also been successful in the treatment of superficial tumors through the use of ultrasonic induced hyperthermia.¹² Ultrasound presents a unique problem for its use however, in that it is not transmitted across air spaces. Thus ultrasound hyperthermia is limited to use in areas where the tumor is readily accessible such as superficial lesions of the head, or extremities.

Whole Body Hyperthermia

To this point, the data presented have dealt with regional applications of heat by a variety

of means. Whole body hyperthermia is also being investigated as a means of cancer treatment. Whole body hyperthermia, although potentially more damaging to the patient, offers a possible means of dealing with widespread disease of either a microscopic or macroscopic nature. As with regional hyperthermia, whole body hyperthermia may be induced by a variety of means.

Pettigrew, in Scotland, has for several years now, used a combination of heated anesthesia gases and a low melting point wax bath to raise the body temperature to 41°C-42°C.¹³ In a small group of patients with a variety of disease forms, these workers found sarcomas and tumors of the gastrointestinal tract to be most sensitive to heat. In their series of 51 patients, 227 treatment sessions averaging four hours each were delivered with few major complications.

In this country, Larkin, Bull and others have utilized heated water perfusion blankets or suits for inducing whole body hyperthermia.^{14, 15} These studies have established many of the physiological parameters associated with the maintenance of prolonged hyperthermia. The techniques themselves have proved somewhat cumbersome, particularly with regard to patient access, and temperature control, as well as inflicting thermal burns at patient contact points. Nevertheless, their results show that whole body hyperthermia is a feasible procedure, technically and physiologically, and seems to offer a positive tumor response in treating some forms of malignancy.

A technique for whole body hyperthermia utilizing extracorporeal circulation is currently receiving widespread interest. This procedure, pioneered by Parks and Smith at the University of Mississippi, involves the implantation of a Dacron graft inserted subcutaneously into the lower extremity and sewn end-to-side to the femoral artery and vein.¹⁶ A machine designed specifically for total body hyperthermia is then used to perfuse the patient. This device uses internally placed probes to measure the patient's body core temperature and then regulates the perfused blood temperature to maintain the desired level (41.5°C-42°C) heating in the body.

Utilizing this technique, Parks and Smith treated 124 patients with far advanced disease and refractory to other therapies a total of 462 times. They reported an objective tumor regression in 61% of their patients. There were eight complications in their group, with three deaths.

Eight of their patients have survived more than one year.

Summary

At this point in time then, hyperthermia seems to offer another means of cancer therapy in addition to the conventional procedures, radiation therapy or chemotherapy. Laboratory data using tissue cultures and animal models suggest that cancer cells can be destroyed by heat. Additionally, radiation therapy or chemotherapy appear to combine with heat to the advantage of both modalities. Finally, preliminary clinical trials in man indicate that hyperthermia, either regional or whole body, is a feasible procedure with minimal ill effects to the patient, and it may be of considerable value in treatment of certain forms of malignant disease. Much remains to be done, however, in the determination of optimum treatment time and temperature combinations.

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Preventing Eyelid Disease

Morriss M. Henry, M.D., Louise M. Henry, M.D., and L. Murphey Henry, M.D.*

Just as dentists have taught their patients that proper brushing can prevent tooth decay, physicians can teach patients how to avoid infections around their eyes, by teaching them the proper way to clean their eyelids, and by emphasizing regular cleaning for prevention of infections.

Ophthalmologists are seeing too many cases of sties, chalazions, and blepharitis (granulated eyelids) that could be prevented by regular washing of the eyelids; and patients are suffering from burning, irritated eyes when they could alleviate their own discomfort by keeping the eyelids free of oils and salt deposits.

Oil glands on the lid margins and at the roots of the eyelashes secrete oils that collect and hold skin debris and secretions. These substances can clog the sebaceous glands and hair follicles, causing repeated and even chronic lid infections if the lids are not kept properly clean.

Dried and caked plaque around the roots of the eyelashes — too small to be seen without magnification — will also cause a person discomfort when it is rubbed into the eye. Many patients report burning sensations in their eyes, often caused by the salt crystals they wipe into their eyes when they rub their lids.

Physicians can do patients a service by helping them realize that cleaning the eyelid is as simple — and as necessary to prevent infection — as proper dental care. But those with chronic problems of the eyelid resulting from either excessively oily eyelids or from debris that collects around the base of the eyelashes and in the skin folds around the eye should be made to understand that the care regimen must be followed carefully and regularly.

Some physicians recommend use of a cotton tip, but I have found a clean wash cloth easier and safer for most persons to use. I recommend a non-burning soap for removing persistent oils that collect at the base of the eyelashes. I advise my

patients to use a clean cloth with each washing, and to use one side for one eye, the other side for the other eye, to avoid spreading infection. They should shut their eyes gently, without squeezing the lids together, and rub horizontally across the closed eyelids to remove the oils, salt particles, and skin debris at the roots of the lashes.

Two cautions: one, if the eyelid is closed too tightly, skin folds in the lids will cover the base of the lashes and keep the washing from removing oil and debris lodged there. This is the hardest aspect of the process for most patients to learn; I ask them to close the eyes but to imagine they are looking up, so as to keep them from closing the lids too tightly to reach the skin surface around the base of the lashes.

Second, washing without soap will not do the job. The soap is needed to soften and dissolve oils and crust that form on the lid. But even a very thin film of soap left on the eyelid can result in irritation that might not occur on the thicker skin elsewhere on the body. All soap should be rinsed from the eyelids and face.

My experience with my patients tells me that we should all be sure to include the cleaning of our eyelids in our daily washing routines, at least once a day. We should also take care not to introduce bacteria from the nose into the eye by rubbing the eyelids with a handkerchief that has been used to clean the nose, or by splashing water onto the face. I instruct patients with special problems of the eyelid to follow with care and with appropriate frequency the regimen I have described, and to continue to use it for the rest of their lives.

The message, as well as the treatment, is very simple: physicians can help their patients understand the importance of prevention in eye care. Like the dentists, we can thereby help people change bad habits formed over a lifetime, habits that may be causing us to see many more eyelid infections than we ought to be seeing.

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ELECTROCARDIOGRAM



OF THE MONTH

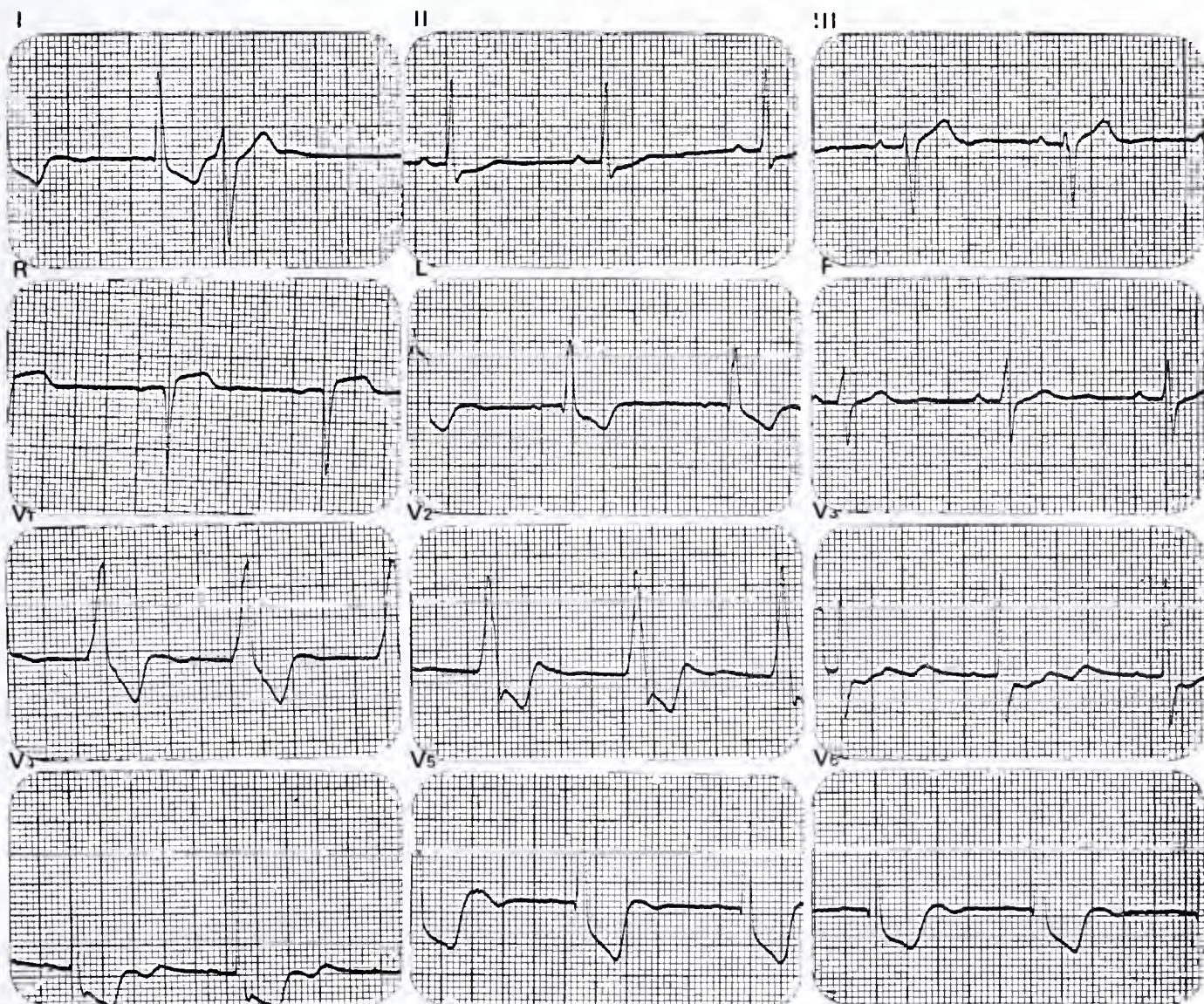
The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 107)

HISTORY: P. J. is a 79-year-old lady in need of exploratory abdominal surgery for suspected neoplastic disease. Her past history is positive for hypertension for which she takes methyldopa, hydrochlorothiazide, propranolol, and potassium. During attempted endotracheal intubation, she developed arrhythmia some of which was captured on this ECG.

Immediate therapy and potential diagnostic procedures might consist of all but which one of the following:

- | | | |
|--------------------------------------|---------------------|---------------|
| A. Arterial gasses and electrolytes. | C. Holter scan. | E. Lidocaine. |
| B. Temporary pacemaker. | D. CCU observation. | F. Atropine. |



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Pediatric Review: Head and Neck Injuries In the Young Athlete

A. Wesley Burks, M.D.*

Head and neck injuries in young athletes are a relatively common occurrence. Hundreds of young men and women are injured each year in athletic competition. The National Football Head and Neck Injury Registry from 1971-1978 documented 1,129 injuries that involved hospitalization for more than 72 hours, surgical intervention, fracture-dislocation, permanent paralysis or death. Of these 1,129 football associated injuries, 550 were fracture-dislocations of the cervical spine, of which 176 were associated with permanent quadriplegia.¹

Team physicians are often required to attend athletic events regularly and provide the medical coverage that school or league policy dictates. Typical physician training does not provide adequate preparation for the moment when the high school athlete lays motionless after the whistle is blown. This is the time when acute medical decisions must be made. The judgments regarding severity of the injury, type of transport, emergency measures needed, follow-up medical care once the athlete leaves the field, when and if the athlete should return to play, must be made quickly and accurately. This article attempts to review some of the current literature on head and neck injuries in young athletes and present methods for prevention, diagnosis and treatment of these injuries.

Pre-Participation Evaluation

On the field care should begin with the pre-participation physical so that only individuals who are physically fit are allowed to participate. A preseason questionnaire has been developed at the University of Kentucky to detect athletes harboring potentially harmful neurologic conditions.² The absolute contraindications against athletic participation are (1) symptomatic abnormalities above the foramen magnum; (2) congenital spinal anomalies with potential instability; (3) temporary quadriplegia regardless of cause and degree of recovery; (4) previous head injury

with permanent neurologic deficit; (5) spontaneous subarachnoid hemorrhage regardless of cause; (6) any cervical-medullary vascular injury.³

The athlete with epilepsy, if well controlled on anticonvulsants, should be allowed to play unless the seizures are by history preceded by trauma.

Head Injuries

These may occur to the wrestler who has his head whipped into the mat on a takedown, to the swimmer who slips on a wet deck and strikes his head, or to the football player who is tackled head on. Varying degrees of brain concussion may be present in each of these situations.

First Degree or Mild Concussions

First degree concussions occur in the dazed confused athlete who perhaps has difficulty recalling what happened just prior to the injury. He may be dizzy and unsteady and complain of some head pain. This may be so subtle that only the player next to him on the field may notice.

Second Degree (Moderate) Concussions

Second degree concussions are diagnosed in athletes who are unconscious for periods of up to three to four minutes. He may also develop nausea and vomiting.

Third Degree Concussions

Third degree concussions result in unconsciousness for five minutes or more.

It should be stressed that the decision to remove a player from the game or to place him in the hospital should be solely in the hands of the team physician. In turn, he must not yield to pressure from the coach, fans, family or players.

Management

The best treatment for mild concussion is preventive—using proper equipment and proper fitting. The athlete must remain under observation until symptoms subside. The athlete with a moderate concussion should be observed and evaluated repeatedly, making sure there are no signs of an expanding intracranial lesion. He should be removed from participation and observed for symptoms. The athlete with third de-

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gree concussion should be hospitalized for rest, observation and further evaluation. EEG would only be helpful if pre-trauma EEG is available and post-trauma EEG's follow. The following conditions would dictate withdrawal from the game for further evaluation: concussion with residual effects of headache, amnesia, and confusion; and any severe concussion where neurologic evaluation is not immediately available.⁴

When a player is down on the field or court (unconscious) it should be assumed that he has sustained a cervical injury. (A word of caution: kneel down next to the athlete, never straddle. Sudden movements of his arm or leg could bring you a momentary painful disability.) If consciousness does not return in a reasonable period of time, the athlete should be transported to a medical facility using the standard movement and spineboard technique for cervical injury.

If the athlete regains consciousness, keep him calm and still. First examine for cervical injury. Simply ask him "where does it hurt?" and then gently palpate his neck for tenderness. Also determine whether he has gross motor function and sensation in all extremities.

There should be no rush to remove the player from the field. When the player is ready to move,

assist him to a sitting position. If this is accomplished without increase in symptoms, assist him to a kneeling position. Then, when ready, assist him to a standing position. Keep a watchful eye as you walk him to the sidelines. Should any of the symptoms increase in the progression from sitting to kneeling to standing, put him back down and call for a stretcher to transport the athlete.⁵

If an individual sustains three concussions during one season he should not be allowed to participate in contact sports any further that season and serious consideration should be given to the individual not participating in contact sports again.

Neck Injuries

Cervical injuries which receive the most publicity are those suffered in football or from the use of a trampoline. Attempts at eliminating cervical injuries in football have included regulations by the ruling bodies at all levels of competition against the tactics of "spearing," "butt-blocking," and "stick-tackling" mandating that the initial point of contact by the tackler or blocker not be the helmet or face mask.

As stated earlier, the athlete who is down should be assumed to have sustained a cervical

CEREBRAL CONCUSSION

	<i>Etiology</i>	<i>Symptoms</i>	<i>Complications</i>	<i>Treatment</i>
<i>1st Degree</i>	Direct blow to the head or helmet producing clinical syndrome characterized by immediate and transient impairment of neural function.	No loss of consciousness; variable symptoms of temporary memory impairment, dizziness, unsteadiness.	Insidious cerebral hemorrhage; vulnerability to subsequent head trauma; perhaps, post-traumatic epilepsy.	Athlete remain under observation until symptoms subside; preventative treatment with proper equipment and fitting.
<i>2nd Degree</i>	As in 1st Degree	Unconscious for periods of up to three to four minutes; retrograde amnesia; variable symptoms of mental confusion, headache, nausea and vomiting.	As in 1st Degree	Removal from participation; repeated observation and evaluation.
<i>3rd Degree</i>	As in 1st Degree	Unconscious for greater than five minutes; prolonged period of retrograde amnesia; possibly convulsions.	As in 1st Degree	Hospitalized for rest, observation and further evaluation as needed.

injury pending adequate physical examination. In suspected cervical injuries sustained in football, it is important not to remove the helmet and risk manipulating the cervical spine. The helmet bulk assists in maintaining a normal cervical alignment. This occurs because the player's shoulders are raised by the shoulder pads, and the unsupported head drops into extension if the helmet is removed. Bolt cutters should be available to remove the face mask if necessary.⁶

"Nerve pinch," "burner," "stinger," and "dead arm" are expressions used to describe the manifestations of nerve compression, distraction or entrapment in the cervical spine. Symptoms of paresthesia or partial paralysis may be present

for a few minutes or may last for many months. Athletes with these symptoms should receive a thorough physical and radiographic examination and not return to competition until there has been a period of adequate healing and all strength and function have returned. A soft cervical collar is usually helpful during the acute phase of recovery (but remember these only produce a decrease in the range of motion by 25%), and a program of exercises should be started immediately in order to rehabilitate the upper extremities.

In a study done at the United States Naval Academy, athletes who had previous neck injury were five times more likely to sustain another injury than those without a previous neck injury.⁷

NEUROSURGICAL CHECK SHEET

Name _____ Age _____ Year 1 _____
2 _____
3 _____
4 _____
5 _____

	Yes	No
1. Did you ever have spasms or convulsions as an infant?	_____	_____
2. Does anyone in your immediate family (parents, brother or sister) have seizures, fits, convulsions, or epilepsy?	_____	_____
3. Have you ever had a seizure, convulsion, fit, spasm, or epileptic attack?	_____	_____
4. Have you ever had or has it been suggested that you should have a brain wave test?	_____	_____
5. Have you ever been unconscious?	_____	_____
If Yes, check which one:		
A. Knocked out	_____	_____
B. Passed-out, fainted, or blacked-out	_____	_____
Were you hospitalized for this?		
6. Have you ever suffered from headaches?	_____	_____
7. Have you ever had concussion?	_____	_____
If Yes,		
A. How many times?	_____	_____
B. How long to make a complete recovery?	_____	_____
C. How many games missed following?	_____	_____
8. Have you ever had a skull fracture?	_____	_____
9. Have you ever had a neck injury?	_____	_____
10. Have you ever had a fractured neck or spine?	_____	_____
11. Have you ever had an x-ray film taken of your neck or spine?	_____	_____
12. Have you ever had an injury producing weakness or numbness of either your arms or legs?	_____	_____
13. Have you ever had a "pinched nerve"?	_____	_____
14. Are you currently taking any medication or drugs?	_____	_____

The preseason health questionnaire developed by the University of Kentucky to detect athletes with potentially harmful neurologic conditions.

Taken from Southern Medical Journal, Vol. 69, p. 1258, October, 1976.

Conclusion

Ruling that a certain condition should discontinue the involvement of a young athlete is a difficult task for a team physician. The following conditions should dictate participation be discontinued for the remainder of the season: (1) seizure related to head injury, which warrants a complete neurological examination to disclose a possible pre-existing unrecognized cause for the seizure; (2) brachial plexus injury with persistent neurologic deficit (the burner or stinger discussed previously); (3) ruptured intravertebral disk; (4) prolonged and repeated post concussion syndrome.⁸

These conditions not only warrant withdrawal from competition that particular season, but should be followed by careful reassessment before athletic participation ensues at a later date. This athlete should have a complete neurological evaluation before returning to play. Where doubt exists, conservatism is usually the best route.

Death or permanent disability can result from participation in athletic events. But, both these can occur from the daily activities of life. The team physician should remember the goals of the game itself while making sound decisions which will affect the health and future of many individuals.

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EDITORIAL

Some Facets of Immunology

Alfred Kahn, Jr., M.D.

The field of immunology has seen an explosive increase in important new discoveries in the past few years — to the point that immunology is a highly specialized area of medicine and medical research.

Timely good review articles appear from time to time in the medical literature, such as "Regulation of the Immune Response — Inducer T Lymphocyte Subsets In Human Beings" by E. L. Reinherz and S. F. Schlostaman (New England Journal of Medicine, Volume 303, page 370, August 14, 1980). The authors point out that human T lymphocytes "regulate the type and intensity of virtually all cellular and humoral immune responses." The T cells are said to migrate from the bone marrow to the thymus and prothymocytes; in the thymus they, so to speak, mature, and then migrate to various lymphoid areas. While in the thymus the lymphocyte develops certain antigenic characteristics in sequence. Also some of the lymphocytes become helper cells and others become suppressor cells. There are subsets of lymphocytes which have distinctive characteristics. Ultimately the mature lymphocyte in the peripheral compartment are as follows: the inducers are T-1+, T-3+, and T-4+ and the suppressor or cytotoxic cells are T-1+, T-3+, and T-5+. Regulatory functions vary depending on the subset. There has to be a relative "balance between effector and regulatory subsets that governs the outcome of antigens" triggering, according to Reinherz and Schlostman; some clinical implications of the disturbance of the delicate T cell balance are discussed in this study. For example, failure of the T cells to mature into competently functional cells could lead to immune deficiency. Another disorder, acquired agammaglobulinemia, is said to be found in pa-

tients with decreased T-4+ subset, which in turn leads to failure of stimulating B-cells to form immunoglobulin. Another example the authors cite — is that of activated T-4+ cells which lead to autoantibodies against various blood cells. Aside from imbalance in the immune cell subsets disturbing the immune process, the subsets of T lymphocytes may be involved in malignant disease. Since there is an orderly development of subsets, the malignant process could develop at various levels, or the cells may be too premature to type.

Another interesting article on immunology has appeared in the England Journal of Medicine (Volume 303, page 622, September 11, 1980), written by C. F. Nathan, H. W. Murray, and Z. A. Cohn, entitled "The Macrophage as an Effector Cell." As the authors point out the macrophage has been known as a phagocytic cell for decades and as a secretory and effector cell for only a few years. They have reviewed here the extracellular and intracellular effector functions of the macrophage.

One of the extracellular effector functions of the macrophage is that of secretory chemical substances. Nathan, et al, have enumerated the following principal products: Enzymes including lysozymes, proteases, acid hydrolases and arginase; complement components; enzyme inhibitors; binding proteins; nucleosides and metabolites; reactive metabolites of oxygen; bioactive lipids; chemotactic factors; replicating factors; factors inhibiting replicators. Another extracellular effector function of macrophages is the attaching of tumor cells. Macrophages are said to invade neoplasms. Tumor growth seems to suppress macrophage numbers and activity and the reverse holds true. Nathan, et al, report that the anti-

tumor activity of macrophages is of three types: Activated macrophages which are treated with certain chemicals kill tumor cells by the release of hydrogen peroxide, tumor cells coated with specific antibody bind to receptors on the macrophage and the tumor cells are lysed and thirdly, macrophages may recognize and kill tumor cells without previous conditioning by chemicals or immune substances.

Intracellular effector function applies to the ingestion of bacteria. It is interesting that the authors state that some bacteria instead of being killed by macrophages — parasite the macrophage. Macrophages kill bacteria with hydrogen peroxide, superoxides, etc. Macrophages may injure bacteria by changing the pH of the vacuole toward a more acid environment; there are other substances with which macrophages attack bacteria.

S. J. Klebanoff has written a review on "Oxygen Metabolism and the Toxic Properties of Phagocytes" (*Annals Internal Medicine*, Volume 93, page 480, September, 1980). The thrust of this article concerns neutrophils and their oxygen dependent antinicrobial systems. Klebanoff outlines the chemistry of oxygen and superoxides, etc., and these are the substances which are injurious to bacteria. When a bacteria is engulfed by a neutrophil a respiratory burst occurs. This seems to be triggered by a disturbance of the cell membrane and it leads to the formation of superoxides and hydrogen peroxide. This review details the chemical steps by which hydrogen peroxide is formed — and the enzymes which promote these reactions.

Of more clinical interest is an article by Thomas Miller and Elaine Marshall on "Suppressor Cell Regulation of Cell-mediated Immune Response in Renal Infection" (*Journal of Clinical Investigation*, Volume 66, page 621, October, 1980). They point out that although immune reactors have been known for a long while, only in the recent past has it been discovered that infections may cripple the hosts immune effector responses; often in infections, cell mediated immune response is decreased — and renal infection is a good case in point. T-cells and macrophages are said to play the most important role in the body's response to infection. The author sets up an experiment using rats as a laboratory model; they were infected with *E. Coli* so as to produce

pyelonephritis. They found that in these laboratory animal experiments, there were two suppressor cells; one was a natural suppressor cell and the other one was induced by infection. The two types could be separated in a centrifuge and indomethacin could reduce the function of the natural variety. The authors felt that one of the mediating factors in these immune responses was prostaglandin E; it is released by activated macrophages; it can inhibit lymphocyte function. Indomethacin inhibits prostaglandin synthetase which in turn inhibits prostaglandin formation. The infection induced suppressor is not inhibited by Indomethacin.

The immune studies discussed here are just a few facets of a fascinating chapter in medicine.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The basic mechanism is sinus bradycardia, rate 57/minute. An ectopic ventricular beat is noted in I. In V₁-V₂, the QRS widens from 0.10 sec. to 0.14 sec., the rate increases to 65/minute, and P-waves are not seen. This most likely represents accelerated idioventricular rhythm. AIVR often is seen in bradycardic patients, possibly representing an escape mechanism following failure or suppression of higher pacemakers. Idioventricular rhythms in general may be associated with hypoxia, acidosis, and electrolyte disturbances. AIVR is often seen in the setting of acute infarction and coexists often with ventricular tachycardia with rates above 120/minute. Since AIVR may be an escape arrhythmia, great caution should be used if suppressive drugs such as lidocaine are given since the patient may develop asystole. A pacemaker would be desirable if lidocaine is to be used to treat AIVR. Initial drug therapy more optimally would be agents to speed the basic mechanism. Atropine or isoproterenol would do this, with atropine being the first choice of most authorities. Thus, depending on the setting, all the options listed, except E, could apply in the evaluation and immediate treatment of AIVR. Most patients are not symptomatic with this arrhythmia, so simple observation might and usually does suffice. Additionally, the trace suggests LVH, ischemia, and metabolic or electrolytic disturbances with no transmural infarct being visible.

"From Other Years"

Arkansas Medical Monthly
Vol. 1 No. 2 May, 1880 pp. 83-85

Tri-County Medical Society at Russellville, Ark., May 1, 1880.

In response to a call of the physicians of Pope, Johnson and Yell counties, a very creditable number of medical gentlemen were present at Russellville on the 1st inst., and organized the Tri-County Medical Society, composed of the following named counties: Pope, Yell and Johnson.

A temporary organization was effected by calling Dr. J. J. Jones to the chair, and Dr. R. M. Johnson was chosen Secretary temporarily.

The object of the meeting was stated, and appropriate remarks made by the Chairman, when on motion, the Society proceeded to the election of officers for the ensuing year, with the following result: President, Dr. J. J. Jones, of Dardanelle; First Vice-President, Dr. J. H. Potts, of

Potts' Station; Second Vice-President, Dr. C. L. Kirksey, of Dover; Dr. R. M. Johnson, of Dover; Corresponding Secretary, Dr. W. H. Hill, of Russellville. . . .

The Constitution provides for our Society to meet quarterly, the first meeting to be held at Dardanelle, Friday, May 14th, 1880, at which time all regular physicians of the above named counties that have now joined our Society, are most respectfully requested to do so. . . .

A number of letters and messages from physicians who could not be present, but who desired to co-operate, and become members were received.

The meeting was in every way harmonious, and all expressed a desire for a medical organization in our midst, and a determination to establish this Society on a sound basis.

Having completed its labors the Society adjourned, to meet at Dardanelle, on Friday, the 14th day of May, 1880.

R. M. Johnson, Secretary

*From the University of Arkansas for Medical Sciences Library, History of Medicine, Archives Division.



M E D I C I N E I N T H E N E W S



THE MONTH IN WASHINGTON

The threat of federal intervention against physicians sitting on policy-making boards of Blue Shield or similar medical insurance plans has been lifted by the Federal Trade Commission.

The agency abandoned a two-year-old proposal by the Commission's Bureau of Competition that the FTC issue a rule limiting control physicians or medical societies may have over the 70 Blue Shield boards.

Additional studies have contradicted original staff findings that health care costs were higher in areas where physicians controlled Blue Shield boards, FTC officials said. They also noted that consumer representation has increased on boards in recent years.

The Commission's decision to abandon the industry-wide effort was unanimous and came

after less than 50 minutes of debate and without a formal vote.

The Blue Shield proposal was one of a series aimed at health care providers and insurers in recent years and ranked in importance only behind FTC's action against the AMA's code of ethics involving physician advertising.

Blue Shield plans disputed the FTC's staff allegations that physician reimbursement was higher where physicians exercised significant control over local Blue Shield plans.

Instead of an industry-wide rule on the matter, an action that probably would have been protested in court, the FTC decided to seek any abuse on a case-by-case basis.

The controversial staff report, which received prominent media attention at the time, charged that control by the medical profession of insur-

ance plans is so pervasive that some physicians call Blue Shield "the economic arm of the medical profession."

In a statement on the FTC's action, Walter McNerney, President of Blue Cross-Blue Shield, said the decision "vindicates" the Blue Shield position that the presence of physicians on Blue Shield boards does not produce higher fees. He said the staff recommendation was in part a "complete reversal" of previous findings.

Acting FTC Chairman David Clanton said the new analysis "suggests that some previously suspected relationships do not hold, but the study still shows a troublesome relationship between medical society involvement on Blue Shield boards and fee levels for several expensive medical procedures."

Clanton said the FTC should proceed selectively "using a rule of reason approach" that takes into account the share of the market possessed by a plan, the degree of physician participation in fee setting, and the plan's coverage.

* * * *

The Administration has sent to Congress legislation phasing out federal financial support for Health Maintenance Organizations (HMOs).

The bill will "help ensure that health maintenance organizations and other modes of health delivery face a fair test in the marketplace," said Richard Schweiker, Secretary of the Health and Human Services (HHS) Department, in a letter of transmittal.

Schweiker said the federal aid has given HMOs "an advantage over other forms of health delivery."

The bill eliminates certain federal restrictions on HMOs "that have inhibited their ability to compete successfully," Schweiker said. The bill authorizes appropriations of \$1 million for the next three fiscal years for HMO training and technical assistance and \$35 million yearly for the HMO loan fund.

No federal assistance would be provided for starting up any new HMO.

Other provisions of the bill would:

- Remove mental health and substance abuse services from the list of required services and make them optional.
- Repeal current limitations as to HMOs contracting with individual physicians for the provision of health services and clarify what percentage of services could be contracted by an HMO.

Earlier, the AMA had told the Congress that now is the time to end federal aid for HMOs.

"What was envisioned in 1973 as a justifiable manipulation of marketplace forces to foster the development of HMOs now is perceived as undue interference with matters of choice best left to the consumer," the AMA said in a statement to the House Commerce Subcommittee on Health.

The growth of any one form of health care delivery — prepaid plans, fee-for-service, etc. — should not be determined by federal subsidies, by preferential treatment under law, or by federally-financed advertising campaigns, the AMA said. Rather, the decision should be made by popular choice in a free competitive system. "Government neutrality is essential to maintain a pluralistic system for consumer choice."

The HMO act has now served its purpose, according to the AMA which has thrown its support to the Administration's plan to withdraw funds for startups of new HMOs and the termination of funds for other HMOs after completion of the current funding cycle.

The AMA said that experience has shown that the HMO program "has not been entirely successful in developing qualified HMOs and the fact remains that the vast majority of individuals who are enrolled in prepaid group practices — HMOs — are enrolled in plans that did not receive federal assistance."

The AMA pointed out that the HMO loan fund which has provided \$128 million to HMOs since 1973 is now in a deficit position because 11 HMOs have gone bankrupt. Another 38 plans are experiencing financial problems, raising the total to more than one-fifth of federally-qualified HMOs that are in trouble.

* * * *

The AMA has backed reauthorization and continued funding for the National Centers for Health Statistics and Health Services Research.

In a statement to the Senate Labor and Human Resources Committee, the AMA said it "has been particularly impressed with the work of the National Center for Health Statistics and the ready cooperation received by medical professionals and medical groups seeking the assistance of Center personnel."

For the most part the National Center for Health Services Research has equally served the private sector, said James Sammons, M.D., AMA Executive Vice President.

The gathering of data on health care services and the research into delivery of medical and other health care are making valuable contributions to those governmental and non-governmental parties who are determined to make informed policy choices. "We urge that these centers continue to receive adequate federal funding."

The AMA also recommended against development of the Cooperative Health Statistics System, saying that the obstacles to the creation of the system and the costs it would entail "militate against its satisfactory completion."

* * * *

The AMA has recommended to the Congress that the National Center for Health Care Technology be eliminated.

Fred C. Rainey, M.D., a member of the AMA's Council on Legislation, told the Senate Labor and Human Resources Committee that the AMA opposed reauthorization of the center "not out of lack of concern for the safety, efficacy, and cost-effectiveness of medical care, but because the relevant clinical policy analysis and judgments are better made, and are being reasonably made, within the medical profession."

Noting that the law creating the center gave the HHS Secretary the authority to regulate the dissemination of medical information, Dr. Rainey said a centralized government authority could not supplant the current system of assessment by researchers, medical school faculties, and physicians and biomedical scientists in public and private institutes, hospitals, and other institutions.

"This is especially so," he said, "when the mandate of such an authority is essentially to facilitate the achievement of economic, not health goals; to make definitive reimbursement recommendations that cannot begin fairly to reflect the complex and changing circumstances that a physician, patient, and a local community must deal with."

Dr. Rainey emphasized the AMA's long history of actively assisting the individual physician in assessing new medical technology and integrating it into medical practice.

He said the AMA was committed to assuring that medical education and practice are rooted on a scientific base, and to raising practitioners' cost-consciousness about all the aspects of medical care. He pointed out that AMA publications

played a central role in disseminating medical information.

* * * *

The Food and Drug Administration's pilot program for patient package inserts (PPTs) for drugs has been slowed and may be halted.

New FDA Commissioner Arthur Hayes, M.D., "will conduct a complete review of ways to provide health and safety information to consumers about drugs," said HHS Department Secretary Richard Schweiker. The May 25 and July 2 effective dates of the pilot program will be postponed.

The FDA review will consider alternative means of providing needed information to patients about drugs, the cost effectiveness of the PPI approach, and whether the pilot program is appropriately constructed to produce reliable information on the effectiveness of PPIs.

The program requires inserts for cimetidine, clofibrate, propoxyphene, ampicillin and phenytoin. Current PPIs for oral contraceptives, estrogens and progestins are not affected.

* * * *

An abrupt halt to capitation aid would force medical schools to retrench some of their essential programs, the AMA has told Congress.

Urging the lawmakers to phase-out gradually the federal program of general institutional support, the AMA said this assistance "has served the public interest by aiding and improving the quality and availability of medical education and medical care. While the amount that an institution can receive under this program is not great, these funds are flexible and enable medical faculties to focus their use on their institutions' needs and the needs of the community."

The AMA statement was submitted to the Senate Labor and Human Resources Committee which is considering legislation to extend health manpower legislation. The Administration wants to cut back on aid and to terminate the capitation program. The Senate and House last year approved different bills and could not agree to compromise legislation before session's end.

In a letter accompanying the AMA statement, James Sammons, M.D., AMA Executive Vice President, said the issues under consideration "are of vital importance as they will affect the future of health care delivery in the United States." Dr. Sammons said "the resources for

qualified students to obtain a medical education and the ability of institutions to offer a quality educational program will direct how health care is delivered for many years to come."

A phase-out of capitation aid would allow "those institutions that rely on these monies time to develop other sources of funds while continuing without the substantial disruption that would be caused by the total elimination of the program," the AMA told the committee.

Student assistance must be of the highest priority for government action, the AMA said. "Access to medical education must not be allowed to become limited on the basis of income."

A strengthened program of guaranteed loans was urged by the Association as well as continued federal assistance to programs of basic nurse training.

* * * *

The Administration's Task Force on Regulatory Relief has singled out three health regulations for priority review as to whether modification is necessary to make them less burdensome.

They are:

- New Drug Applications — Delays in the existing process of approving new drugs by the Food and Drug Administration "justifies a thorough review."

- Medicaid Regulations — States contend that these regs hamper their ability to provide services to needy people at reasonable funding levels, according to the Task Force.

- Health Care Institution Certification and Surveys — Hospitals, nursing homes and other institutional providers "are subject to myriad, frequent and duplicative surveys and reviews."

Vice President George Bush, Chairman of the Task Force, urged the public to notify his agency of rules and regulations that people find onerous and unnecessary.

* * * *

The private sector has made a great step forward in restraining medical care costs in the face of double-digit inflation, a nationwide television audience was told by James Sammons, M.D., AMA Executive Vice President.

Appearing on the program "It's Your Business" produced by the Chamber of Commerce of the United States, Dr. Sammons said inflation, government spending, government regulations, increased demand, new technology "all cause increasing costs."

"Let's all be realistic," he said. "Everybody can work very, very hard at trying to control these costs — but as long as inflation is running wild, as long as energy costs are going up steadily in a markedly energy-intensive industry, in a heavy labor-intensive industry — there is no way you're going to be able to put a lid on costs and maintain quality and maintain quantity."

Dr. Sammons said that if incentives are to be placed in the system in order to hold down costs "then there's got to be some cost sharing; cost sharing between the patient and the insurer, between the employee and the employer, between government recipients — excluding, of course, the poor."

Asked whether the same competitive standards that apply to business can work in the area of health care, Richard Leshner, Ph.D., Chamber President, said "I think not only they can, but I think they must." He said "we must encourage competition among the various forms of health care delivery systems."

Bert Seidman, Director of the AFL-CIO Department of Social Security, said early diagnosis and treatment will keep people out of hospitals and reduce costs. "And that can be done if people have available to them comprehensive benefits without financial barriers to climb."

Rep. Barbara Mikulski (D-Md.), a member of the House Commerce Subcommittee on Health, charged that the Administration's cuts in health "are definitely anti-family. They will adversely affect everyone from the unborn to school-aged children to the elderly."

* * * *

The American patient in 1977 was billed, on the average, \$21.29 for a visit to a physician. The patient waited seven days for the appointment and spent 30 minutes waiting in the physician's office, according to preliminary findings of a large federal study on the costs and delivery of health care in 1977.

The patient paid \$14.69 of the average charge for a visit, with the remainder being covered by private health insurance (\$3.41), Medicaid (\$1.49), Medicare (\$0.85), and other sources (\$0.85), the National Center for Health Services Research (NCHSR) study found.

Longer waiting times were noted for appointments to obtain hospital outpatient services (10 days) and visits associated with preventive serv-

ices, such as prenatal care or eye examinations in a physician's office (14 days).

Hospital outpatient departments also ranked highest in the amount of time a patient spent waiting to see a doctor — 45 minutes. Hospital emergency rooms kept patients waiting an average of 38 minutes, and physician offices an average of 29 minutes.

* * * *

Proposed regulations on medical devices threaten to throw the same roadblocks against innovation and development that now exists for drugs, the AMA has told the Food and Drug Administration.

The FDA wants authority to place restrictions on devices, including the power to place controls on physician access to a device, by imposing rigid, FDA-defined protocols for the use of a device, and by establishing strict record-keeping requirements for those physicians allowed to use a device, according to the AMA.

Such action is "unnecessary and inappropriate," the AMA said. "Treatment decisions and clinical protocols are best left to the individual physician who must deal with the needs of an individual patient. We urge the agency not to place any restrictions on a device that go beyond limiting its approved distribution to health care professionals recognized by state law within the scope of their license to practice."

The AMA also said the imposition of any conditions on devices should be implemented only "after broad public and physician input . . . if restrictions or conditions that could substantially have impact on medical practice are proposed."

* * * *

The AMA has told Congress that people on restricted diets need more information than is now readily available to control their total daily intake of sodium.

The AMA suggested that both sodium and potassium content should be shown in milligrams per serving on food labels.

Testifying before a House Science Subcommittee were Ray Gifford, M.D., of the Cleveland Clinic Foundation and a member of the AMA's Council on Scientific Affairs; and Philip White, Sc.D., Director of AMA's Department of Foods and Nutrition.

Dr. Gifford said that "without information regarding sodium content on the label of foods, dietary planning by physicians and their patients

is more difficult. Obviously, a cost-effective system of sodium labeling for foods would be beneficial to both physicians and their patients and would thus be of considerable assistance in the dietary management of hypertension.

* * * *

FIRST VICE PRESIDENT OF THE ARKANSAS MEDICAL SOCIETY



FRANK E. MORGAN, M.D.
North Little Rock

Dr. Frank Morgan was elected First Vice President of the Arkansas Medical Society during the recent annual meeting.

Dr. Morgan was born in North Little Rock and was Co-Salutatorian of the 1946 class of North Little Rock Senior High School. He is a 1948 honor graduate of Little Rock Junior College; he received his B.S. from the University of Arkansas at Fayetteville in 1951. In 1953, Dr. Morgan was graduated from the University of Arkansas College of Medicine with a B.S.M. and M.D.

Dr. Morgan served his internship at William Beaumont Army Hospital in El Paso. His Obstetrics/Gynecology residency was with the University of Arkansas College of Medicine from 1956 to 1960. In 1960, he began private practice of Obstetrics and Gynecology in North Little Rock.

During the 1980-81 year, Dr. Morgan served as Annual Session Program chairman and second

vice president of the Medical Society. He has previously served as secretary of the Obstetrics/Gynecology Section at St. Vincent Infirmary; chief of Obstetrics/Gynecology, chief of surgery and chief of staff at Memorial Hospital; and treasurer of the Pulaski County Medical Society. Dr. Morgan is a fellow of the American College of Obstetrics and Gynecology, member of the Southern Medical Association, member of the Little Rock Gynecological Society and the American Medical Association. Dr. Morgan's fratern-

nity associations are: Phi Theta Kappa Honor Fraternity, Alpha Epsilon Delta Honor Premedical Fraternity and Phi Chi Medical Fraternity.

Dr. Morgan is a member of Central Baptist Church where he serves as Deacon and teacher of the Young Adult Sunday School Class. He has also served as church organist for 35 years.

Dr. Morgan is married to the former Margaret Ann Barnes, who is a past president of the Arkansas Medical Society Auxiliary. Dr. and Mrs. Morgan have one son, David.



keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

RECENT DEVELOPMENTS IN SUBSTANCE ABUSE THERAPY OR DRINKS, DRUNKS, DRUGS AND DOCTORS

Presented by Mohamed Kassam, M.D., *August 17, 6:00 p.m.*, Memorial Hospital, North Little Rock, Arkansas. One hour Category I credit. No fee.

MANAGEMENT OF CHRONIC PAIN

Presented by Warren C. Boop, M.D., Professor of Neurosurgery, and Gary Souheaver, Ph.D., University of Arkansas for Medical Sciences, *August 25, 7:00 p.m.*, Inservice Education Building, Baxter General Hospital, Mountain Home, Arkansas. Two hours Category I credit. No fee.

PSYCHIATRY UPDATE 1981

Presented by Robert R. Matthews, M.D., President, Arkansas Psychiatric Society, *September 11, 6:30 p.m. to 9:30 p.m.*; *September 12, 7:15 a.m. to 12:45 p.m.*, Indian Rock Resort, Fairfield Bay, Arkansas. Seven and one-half hours Category I credit. Registration fee \$75; \$60 for members of the Arkansas Psychiatric Society. Sponsored by UAMS.

PEDIATRIC CONFERENCE ON MANAGEMENT OF (PART I) CHILDREN WITH MINIMAL BRAIN DYSFUNCTION AND (PART II) CHILDREN OF DIVORCE

Presented by Richard A. Gardner, M.D., Clinical Associate Professor of Psychiatry, College of Physicians and Surgeons, Columbia University, New York, *September 18, 9:00 a.m. to 4:00 p.m.*, Education Wing, Room E-155, St. Vincent Infirmary, Little Rock. Six hours Category I credit. Registration fee \$50 (includes breakfast and lunch).

CORNEAL AND EXTERNAL OCULAR DISEASE

Presented by Perry S. Binder, M.D., and Thomas O. Wood, M.D., *September 18 & 19, 8:30 a.m. to 12:30 p.m. (both days)*, Red Apple Inn, Heber Springs, Arkansas. Seven hours Category I credit. Registration fee \$75. Sponsored by Arkansas Academy of Ophthalmology. For information contact James H. Landers, M.D., Secretary, Arkansas Academy of Ophthalmology, Suite 519, Doctors Building, Little Rock, Arkansas 72205.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

RECENT DEVELOPMENTS IN REHABILITATION

Presented by John Bowker, M.D., *September 21, 6:00 p.m.*, Memorial Hospital, North Little Rock, Arkansas. One hour Category I credit. No fee.

OFFICE MANAGEMENT OF HYPERLIPIDEMIA AND EXPECTED RESULTS

Presented by Stewart L. Nunn, M.D., Professor of Medicine, University of Tennessee College of Medicine, Memphis, *September 22, 7:00 p.m.*, In-

service Education Building, Baxter General Hospital, Mountain Home, Arkansas. Two hours Category I credit. No fee.

THE AGING MUSCULOSKELETAL SYSTEM

Presented by Charles Schock, M.D., *September 29 & 30, 8:00 a.m. to 5:00 p.m.*, Little Rock Hilton Inn. Eleven and one-half hours Category I credit. Registration fee \$130; \$50 for VA based personnel. Sponsored by UAMS.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, August 6, 20 and September 3, 17, 1:00 p.m., Conference Room.

Pathology Conference, August 18 and September 15, 3:00 p.m., Conference Room.

Mortality Conference, August 13 and September 10, 3:00 a.m., Conference Room.

Peer Exchange, August: "Gastroenterology"; September: "Hematology". (Contact VAMC for further information.)

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, August 12 and September 9, 6:00 p.m. to 12:00 midnight, Human Resources Development Area. Six hours Category I credit.

GI Roundup, September 9 and 23, 12:00 noon to 1:00 p.m., Conference Room #1. (August cancelled.)

Emergency Medicine Conference, August 3, 19 and September 2, 16, 30, 12:30 p.m. to 1:30 p.m., Conference Room #1.

Morbidity and Mortality Conference, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1. (August cancelled.)

Surgery Conference, each Thursday except first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1. (August cancelled.)

Anesthesiology Conference, August 20 and September 17, 7:00 a.m. to 8:00 a.m., Dining Room #3.

Case of the Month, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1. (August cancelled.)

Central Arkansas Primary Care Conference, September 8, 7:00 p.m. to 9:00 p.m., BMC Auditorium. (August cancelled.)

Pulmonary Care Conference, each Tuesday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 p.m. to 1:15 p.m., Coffee Shoppe Dining Room #3.

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E155, Education Wing.

Pediatric Conference, first and third Monday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.

Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.

Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.

Cardiology Conference, second and fourth Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Internal Medicine Grand Rounds, each Tuesday, 8:00 a.m. to 9:00 a.m., Education I Auditorium.

Anesthesiology Complications Conference, each Tuesday, 7:00 a.m. to 8:00 a.m., Room 2E04, UAMS Hospital.

Neuroradiology Course, each Wednesday, 4:00 p.m. to 5:00 p.m., Radiology Conference Room.

Radiology Continuing Education Lecture Series, two Wednesdays each month, 6:00 p.m. to 7:30 p.m., Radiology Conference Room.

Residents Anesthesia Seminars, each Wednesday and Thursday, 3:30 p.m. to 4:30 p.m., Room 2E04, UAMS Hospital.

Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m. to 6:00 p.m., UAMS Eye Clinic.

Categorical Course in Radiology, each weekday except Wednesday, 4:15 p.m. to 5:00 p.m., Wednesday, 5:00 p.m. to 5:45 p.m., Radiology Conference Room.



PERSONAL AND NEWS ITEMS

Dr. Braley Locates

Dr. Richard E. Braley, an Ophthalmologist who specializes in vitreo-retinal diseases, has located in Hot Springs. He is associated with Dr. Al Thomas.

Dr. Miller Honored

Dr. Robert D. Miller of Helena received an honorary doctoral degree from the Kansas State Adult Education Graduate Club, Kansas State University at Manhattan.

Dr. Dennis Receives Award

Dr. James L. Dennis has received the "Distinguished Service Award" from the University of Arkansas College of Medicine.

Dr. Dennis, a former vice president and chancellor of the University of Arkansas for Medical Sciences from 1970 to 1978, is a consultant at the Arkansas Children's Hospital Development Center. He has attained professor emeritus status.

New Physician

Dr. Kerry F. Pennington, a Family Physician, has joined the Crow-Whaley Clinic in Warren.

Lung Association Director

Dr. Rex Ramsay of Benton was re-elected as director-at-large for the Arkansas Lung Association.

Dr. Kolb Speaks

Dr. James M. Kolb spoke at a recent meeting of the Russellville Division of Licensed Practical Nurses.

Dr. Wills Speaks

Dr. Paul Wills of Fort Smith addressed the Sebastian County Medical Society at its May meeting on "Tax Shelters for Professionals." Dr. Wills outlined a variety of tax shelters available to the professional.

Explorer Award

During the recent annual meeting of the South Central Region of the Boy Scouts of America, Dr. Raymond Biondo of North Little Rock was presented the William H. Spurgeon III Award. Dr. Biondo was honored for his service to youths through the Exploring Program. He is one of

the first two recipients to be honored by the Region.

Ophthalmologist Speaks

Dr. J. Y. Massey of Mountain Home presented a program on cataracts at the recent meeting of the Lakeview Community Club.

Monticello Gains Physician

Drs. Paul Wallick, Harold Wilson and James B. Holder have announced that Dr. Robert E. Burns has joined the Monticello Medical Clinic.

Doctors Participate

Drs. Don Vowell and Charles Ledbetter recently participated in a Crippled Children's Clinic in Harrison.

Office Closed

Dr. John W. Dodson of Hot Springs has announced the closing of his office.

Physician Locates

Dr. Richard C. Pillsbury, who specializes in the diseases of the ear, nose and throat, has opened an office at 423 Thompson in El Dorado.

Dr. Durham Speaks

Dr. James Durham spoke at a recent meeting of the Jacksonville Sertoma Club. The subject of Dr. Durham's speech was coronary disease.

New Doctor In Leslie

Dr. Carol A. Chaney is now associated with the Leslie Medical Clinic. She specializes in Family Practice and Obstetrics.

China Lectures

Dr. F. Hampton Roy of Little Rock and Dr. Jay McDonald of Fayetteville spent a month in the People's Republic of China on behalf of the World Eye Foundation. While there, they gave lectures at medical schools in the cities of Shanghai, Kaifong, Chenchow, Loyang, Sian, and Uramchi. Topics included cataract extraction, intraocular lens implantation, diabetic retinopathy, extended wear contact lenses, and spray freezing of lid lesions. They also demonstrated intraocular lens and lid surgery for forty-five Chinese Ophthalmologists.



NEW MEMBERS

DR. ROBERT G. BISHOP

Dr. Robert Bishop is a new member of the Conway County Medical Society. He was born in Springfield, Missouri.

In 1975, Dr. Bishop received his B.A. from Hendrix College. He is a 1979 graduate of the University of Arkansas College of Medicine. His internship was with St. Vincent Infirmary.

Dr. Bishop has his office for General Practice on Highway 9B North in Morrilton.

DR. LEWIS G. ALLEN

Dr. Lewis Allen, a member of the newly-organized Fulton-Izard-Sharp County Medical Society, is a native of Kansas City, Kansas.

Dr. Allen, a 1943 graduate of the University of Kansas, received his M.D. from the University of Kansas School of Medicine, Kansas City, in 1945. After an internship with Cleveland Clinic, Dr. Allen served his residency with Mayo Clinic. He served with the United States Public Health Service in 1946-47 and 1953-54.

Dr. Allen practiced in the Kansas City area from 1951 to 1980.

A board certified Radiologist, Dr. Allen is associated with the Eastern Ozarks Community Hospital in Hardy.

DR. DAVID L. CARLISLE

The Jefferson County Medical Society has accepted Dr. Carlisle as a new member.

Dr. Carlisle was born in Montevideo, Uruguay. He was graduated from the Howard Payne University in Brownwood, Texas, in 1966 with a B.A. In 1976, he was graduated from the University of Texas Medical Branch at Galveston. Dr. Carlisle's internship and Anesthesiology residency were with the hospital at the University of Arkansas for Medical Sciences.

Dr. Carlisle practiced Emergency Medicine for one year with Ouachita Memorial Hospital in Hot Springs.

Dr. Carlisle's specialty is Anesthesiology. His office is at 1410 West 42nd in Pine Bluff.

DR. DUONG LGOC LY

Dr. Ly has been added to the membership roll of the Lee County Medical Society. He is a native of Haininh, Vietnam.

After his pre-med education at Saigon Faculty of Sciences, Dr. Ly was graduated from the Saigon Faculty of Medicine in 1966. He practiced for eight and one-half years in Vietnam before coming to the United States.

After coming to the United States, Dr. Ly received further training at the University of Arkansas College of Medicine.

Dr. Ly has his office for General Practice at 77 West Main in Marianna.

DR. PAUL D. MEREDITH

The Miller County Medical Society has accepted Dr. Meredith as a new member. Dr. Meredith was born in Crossett.

Dr. Meredith received a B.A. from Hendrix College in 1969 and an M.D. from the University of Arkansas College of Medicine in 1973. His internship and residency were also with the University.

Dr. Meredith practiced four years in Conway. He is now practicing with Collom and Carney Clinic, 4800 Texas, in Texarkana. He is a board certified Pediatrician.

DR. ZVI AVINER

A native of Israel, Dr. Aviner now practices in Blytheville and is a member of the Mississippi County Medical Society.

Dr. Aviner's pre-med and medical education were with the Hebrew University — Hadassah Medical School in Jerusalem; he was graduated in 1966. After an internship with Hebrew University Hospital in Jerusalem, Dr. Aviner served his residency with Tel-Aviv University Medical School, Beilinson Hospital. From 1973 to 1978, he served an Ophthalmological Fellowship with Mount Sinai Hospital in New York. From 1978 to 1979, he held a teaching position with Tulane Medical School in New Orleans.

Dr. Aviner is in the solo practice of Ophthalmology at the Medical Plaza, Tenth and Highland, Blytheville.

DR. ROGER L. TILLEY

Dr. Tilley, a native of Arkadelphia, is a new member of the Saline County Medical Society.

After receiving his pre-med education at Henderson State University, Dr. Tilley received his M.D. from the University of Arkansas College of Medicine in 1978. He served a flexible internship with Baptist Medical Center. Dr. Tilley served residencies of Family Practice with the

Pensacola (Florida) Educational Program and with the University of Arkansas Area Health Education Center in Pine Bluff.

Dr. Tilley has been in practice in Benton since 1980. His office is located at 302 West South. His specialty is General and Family Practice.

DR. LOUAY NASSRI

The Sebastian County Medical Society has added Dr. Nassri to its membership roll.

A native of Damascus, Syria, Dr. Nassri received his pre-med at the School of Sciences, Damascus University. In 1967, he was graduated from the Damascus University Medical School. After an internship with Huron Road Hospital in Cleveland, Ohio, and a residency with Tulane Medical School in New Orleans, Dr. Nassri returned to Damascus and practiced there for eight years. He also served as an associate Professor of Pediatrics at Damascus University.

Dr. Nassri, a board certified Pediatrician, now practices with the Holt-Krock Clinic at 1500 Dodson in Fort Smith.

DR. CHRISTOPHER J. WOOLLAM

The St. Francis County Medical Society has added Dr. Woollam to its membership roll.

Dr. Woollam was born in England. His pre-med education was at the University of Ottawa in Canada. In 1968, he was graduated from the University of Ottawa Faculty of Medicine. After an internship at Ottawa Civic Hospital, he practiced at Uplands Air Force Base in Ottawa. Dr. Woollam was in private practice in Ottawa from 1972 to 1976 and in Mississauga from 1976 to 1980.

Dr. Woollam is associated with The Family Practice Clinic at 318 East Cook Avenue in Forrest City.

DR. D. R. VYAS

Dr. Vyas is a new member of the Union County Medical Society.

A native of Unjarat State, India, Dr. Vyas received his pre-med education at Gujarat University, Ahmedabad, India. He was graduated from the M. P. Shah Medical College Aujarat Univerity, Jamnagar, Gujarat, India.

Dr. Vyas served an internship with Harlem Hospital of Columbia University in New York and residencies with Babier Hospital, also of Columbia University, and Montefiore Hospital of Albert Einstein University. He practiced for a short period of time in New York City and Port-

land, Oregon. While in Oregon, he was an instructor with the University of Oregon. In 1976, Dr. Vyas was certified in Pediatrics and in 1978, he was certified in Pediatric Hematology and Oncology.

Dr. Vyas specializes in Pediatrics and Pediatric Hematology and Oncology. His office is located at 317 Thompson in El Dorado.

DR. STEPHEN SHADDOX

Dr. Shaddox was born in Springfield, Missouri, and is a new member of the Washington County Medical Society.

Dr. Shaddox's pre-med education was at Hendrix College and the University of Arkansas. He is a 1973 graduate of the University of Arkansas College of Medicine. After an internship with St. John's Hospital in Tulsa, he served an Urology residency with the University of Missouri Medical Center. From 1978 to 1980, he practiced in Stillwater, Oklahoma.

A board certified Urologist, Dr. Shaddox has his office at 1300 Zion Road in Fayetteville. He also holds a teaching appointment with the University of Arkansas Area Health Education Center.

* * * *

Pulaski County Medical Society has thirteen new members:

DR. RUTH A. COOPER

Dr. Cooper, a native of Little Rock, attended Little Rock University. She was graduated from the University of Tennessee College of Medicine at Memphis in 1967.

After an internship with Allentown Hospital in Allentown, Pennsylvania, Dr. Cooper served a Psychiatric residency with Michael Reese Hospital in Chicago.

Before returning to Arkansas, Dr. Cooper was in private practice for four years in Chicago and for two years worked for the Department of Mental Health of the City of Berkeley, California.

Dr. Cooper is certified in Psychiatry. Her office is located at 500 South University, Suite 320, in Little Rock.

DR. W. PAUL DMOWSKI

Dr. Dmowski was born in Lodz, Poland. He was graduated from the Warsaw Academy of Medicine, Poland, in 1962.

Dr. Dmowski served a rotating internship with Warsaw Clinics and an Obstetric-Gynecology internship at Ottawa General Hospital, Canada.

His Obstetric-Gynecologic residency was with Ottawa General Hospital and Beth Israel Medical Center, New York City.

From 1967 to 1971, Dr. Dmowski attended the School of Graduate Studies at the Medical College of Georgia in Augusta. From 1967 to 1969, he was a Population Council Research Fellow with the Department of Endocrinology.

Dr. Dmowski held teaching appointments as associate professor of the Department of Obstetrics-Gynecology at the University of Chicago, Pritzker School of Medicine and as Director of the Division of Reproductive Endocrinology and Infertility at Michael Reese Hospital in Chicago. He is certified in Obstetrics-Gynecology and Obstetrical-Gynecological Endocrinology.

Dr. Dmowski is now a professor with the Department of Obstetrics-Gynecology and Director of the Division of Reproductive Endocrinology and Infertility at the University of Arkansas College of Medicine.

DR. WILLIAM D. DUCKETT

Dr. Duckett was born in Poplar Bluff, Missouri. He was granted a B.A. by the University of Arkansas at Fayetteville in 1965. In 1970, he was graduated from the University of Arkansas College of Medicine.

Dr. Duckett's internship was with Hillcrest Medical Center in Tulsa. From 1971 to 1972, he was in training with the Tulsa Pediatric Educational Program. From 1972 to 1974, he was in Anesthesiology residency with the University of Oklahoma Health Science Center.

Dr. Duckett is certified by the American Board of Anesthesiology. Before moving to Little Rock, he was in private practice in Tulsa from 1974 to 1977. His office is located at 500 South University in Little Rock.

DR. SUSAN D. FISER

Dr. Fiser was born in Baltimore, Maryland. She was graduated by Little Rock Central High School.

In 1974, Dr. Fiser was granted her B.A. degree by the University of Arkansas at Fayetteville. She was graduated from the University of Arkansas College of Medicine in 1979. Her internship was with St. Paul-Ramsey Medical Center, Minnesota.

Dr. Fiser is an instructor and associate director of Emergency Services at the University of Arkansas for Medical Sciences.

DR. EUSTACE S. GOLLADAY

Dr. Golladay was born in Huntington, West Virginia, and attended school in New Orleans, Louisiana.

Dr. Golladay's pre-med education was at Tulane University in New Orleans. In 1967, he was graduated from the Tulane University School of Medicine. His internship and Surgery residency were with Charity Hospital in New Orleans. Dr. Golladay served a Pediatric Surgery residency with Johns Hopkins University. He is certified by the American Board of Pediatric Surgery.

Dr. Golladay is an assistant professor of Surgery at the University of Arkansas College of Medicine. He is also associated with Arkansas Children's Hospital at 804 Wolfe Street, Little Rock.

DR. JOHN PAUL (J. P.) LOFGREN

Dr. Lofgren was born in Kombi, Tanzania.

In 1972, Dr. Lofgren received his B.A. from Gustavus Adolphus College, St. Peter, Minnesota. He was graduated from Harvard Medical School, Boston, in 1976. After an internship and Family Practice residency with The Medical Center in Columbus, Georgia, he served an Epidemiology residency as Epidemiological Investigative Officer in Jefferson City, Missouri, for the Center of Disease Control in Atlanta.

Dr. Lofgren's specialty is Medical Epidemiology. He is associated with the Arkansas Department of Health at 4815 West Markham, Little Rock.

DR. CHARLES D. MABRY

Dr. Mabry, a native of Jacksonville, is now an assistant professor of Surgery with the University of Arkansas College of Medicine.

Dr. Mabry was graduated from the University of Central Arkansas at Conway in 1971. His medical degree was received from the University of Arkansas College of Medicine. Dr. Mabry received his specialty training at the University Medical Center. He is a member of the Candidate Group of the American College of Surgeons.

Dr. Mabry is a staff surgeon with the Little Rock Veterans Administration Medical Center.

DR. EWA RADWANSKA

Dr. Radwanska was born in Wilno, Poland, and received her pre-med education with Warsaw University, Poland.

Dr. Radwanska is a 1962 graduate of the Medical Academy of Warsaw, where she also served her internship. From 1972 to 1975, she served an

Endocrinology residency with the University College Hospital in London, England, and from 1975 to 1976, she served an Obstetrics and Gynecology residency with Hillingdon Hospital, London.

From 1977 to 1979, Dr. Radwanska was an assistant professor with the University of North Carolina at Chapel Hill. Since 1979, she has been an assistant professor at the University of Arkansas College of Medicine. Her specialty is Obstetrical and Gynecological Reproductive Endocrinology.

DR. ROBERT A. STRAUSS

Dr. Strauss, a native of New York City, received his B.A. from Queens College in Flushing, New York, in 1968. He is a 1972 graduate of The Chicago Medical School.

Dr. Strauss served an internship and Pathology residency with Presbyterian Hospital in New York. He is certified by the American Board of Pathology.

Dr. Strauss is an assistant professor of Pathology with the University of Arkansas College of Medicine and Medical Director of the Blood Bank and Coagulation Laboratories.

DR. RICHARD P. TUCKER

Dr. Tucker was born in Winfield, Kansas. In 1956, he received his B.S. from the United States Naval Academy, Annapolis, Maryland. He was graduated from the University of Oklahoma School of Medicine at Oklahoma City in 1956.

Dr. Tucker served his internship, Psychiatry residency and Neurology residency with the University of Michigan Affiliated Hospitals in Ann Arbor. He was a Fellow in Electroencephalography at the same institution.

Dr. Tucker practices with the Arkansas Neurological Clinic, Ltd., at 500 South University in Little Rock.

DR. ROBERT S. VENABLE

Dr. Venable was born in Fort Smith. In 1973, he was graduated from Hendrix College at Conway and in 1977 he was graduated from the University of Arkansas College of Medicine.

Dr. Venable's internship and Family Practice residency were with University of Oklahoma Tulsa Medical College and Affiliated Hospitals in Tulsa. He is certified in Family Practice.

Dr. Venable is an assistant professor of Internal Medicine at the University of Arkansas for Med-

ical Sciences. He is a member of the American College of Emergency Physicians.

Dr. Venable lists his specialty as Family Practice/Emergency Medicine. He is associated with the University of Arkansas College of Medicine.

* * * *

**Intern and Resident Membership
DR. JOHN MERTZ**

Dr. Mertz is an intern with the University of Arkansas College of Medicine. His specialty is Orthopaedics. He is a 1980 graduate of the University of Texas Southwestern Medical School in Dallas.

DR. ROBERT L. BRYANT

Dr. Bryant, a General Surgery resident, is a graduate of the University of Arkansas College of Medicine.



THINGS TO COME



August 6-8

Arkansas Academy of Family Physicians, Annual Scientific Assembly. Camelot Inn/Convention Center, Little Rock. Begins with cocktail party at 6:30 p.m. on Thursday. Scientific sessions are scheduled for Friday and Saturday until 3:00 p.m.

For further information, contact Alta Good, Post Office Box 5721, Little Rock; phone 227-4633.

September 14-17

The American College of Emergency Physicians 1981 Scientific Assembly. Mariott Hotel, New Orleans. Twenty-nine hours ACEP Category I credit. Hour-for-hour credit AMA Category I. For further information, contact American College of Emergency Physicians, Post Office Box 61911, Dallas, Texas 75261.

September 17-18

Medical Staff Leadership Conference. Southern Medical Association. Nashville, Tennessee. To prepare physicians for hospital staff leader-

ship. Eleven elective hours American Academy of Family Physicians and 11 hours Category 1 American Medical Association Physician's Recognition Award. For further information, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; phone (205) 323-4100.

October 1-2

Medical Staff Leadership Conference, Southern Medical Association. Lake Ozark, Missouri. To prepare physicians for hospital staff leadership. Eleven elective hours American Academy of Family Physicians and 11 hours Category 1 American Medical Association Physician's Award. For further information, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; phone (205) 323-4400.

March 22 - April 2, 1982

Twenty-third Postgraduate Institute for Pathologists in Clinical Cytopathology. Johns Hopkins University School of Medicine and Johns Hopkins Hospital, Baltimore, Maryland. 125 credit hours Category I, AMA. Application is to be made before January 27, 1982. For details, write John K. Frost, M.D., 610 Pathology Building, The Johns Hopkins Hospital, Baltimore, Maryland 21205.

cology at the Woman's Hospital in Baltimore, and

WHEREAS, Dr. Krock was a pioneer leader in surgery and organized medicine in Western Arkansas; and, mainly through his efforts the clinic which bears his name was established and has continued to grow, and

WHEREAS, Dr. Krock faithfully served his country as a surgeon in World War II in the South Pacific and obtained the rank of Captain, and

WHEREAS, Dr. Krock was a founder member and president of the Southwest Surgical Congress, and was a member of the Southern Surgical Association, the American College of Surgeons, and the International Society of Surgery, along with being a member of the Sebastian County Medical Society and the Arkansas State Medical Society, and

WHEREAS, Dr. Krock served on the Board of Trustees at Sparks Regional Medical Center for many years and served as Chief of Surgery continually for a long period of time, and

WHEREAS, he was a devoted member of his church and was president of the congregation for several years. He devoted much of his time and thought to its function, and

WHEREAS, Dr. Krock served on numerous civic projects and was president of the Fort Smith Symphony, president of the Albert Pike Numismatic Society and president of the Noon Civics Club, and in 1976 was recipient of the Sertoma Award.

NOW, THEREFORE, BE IT RESOLVED that the Sebastian County Medical Society express to the family of Dr. Krock its loss and grief on the death of our most respected and honored friend.

BE IT FURTHER RESOLVED that a copy of the resolution be supplied to the members of Dr. Krock's family, and

BE IT FURTHER RESOLVED that this memorial be published in the minutes of the Sebastian County Medical Society and published in the State Journal.

A. C. Bradford, M.D., President

Sebastian County Medical Society



RESOLUTIONS



DR. FRED H. KROCK

WHEREAS, on May 2, 1981, God in his infinite mercy called from our midst one of our most beloved and respected physicians, Dr. Fred H. Krock.

WHEREAS, Dr. Krock was a renowned and skillful surgeon, beloved by his colleagues and friends, dedicated to his patients, and

WHEREAS, Dr. Krock was a graduate of Johns Hopkins School of Medicine and trained in Gynecology



OBITUARY

DR. B. JAMES REAVES

Dr. Reaves was born February 4, 1908, and died May 22, 1981.

A native of Little Rock, Dr. Reaves received his pre-med education at Hendrix College and the University of Arkansas at Fayetteville. After his graduation from the University of Arkansas College of Medicine, Dr. Reaves served an internship with Copley Hospital at Aurora, Illinois, and Evanston (Illinois) Hospital. His residency was with Chicago Lying-In Hospital. In 1942 Dr. Reaves became the youngest diplomate of the American Board of Obstetrics and Gynecology.

From 1935 to 1962, Dr. Reaves practiced Obstetrics and Gynecology in Little Rock. He had also served as clinical associate professor of obstetrics and gynecology at the University of Arkansas College of Medicine from 1946 to 1960. Dr. Reaves served as chief of staff for obstetrics and gynecology at St. Vincent Infirmary and as a member of the staff of the Arkansas Baptist Hospital. From 1968 to 1974, he served as a con-

sultant to the Maternal and Child Health Division of the State Health Department.

Dr. Reaves was a member of the American College of Obstetrics and Gynecology, the American Medical Association, First United Methodist Church and the Country Club of Little Rock.

Dr. Reaves is survived by his wife, Mrs. Eula Noble Reaves, one son and one daughter.

DR. D. B. STOUGH, JR.

Dr. D. B. Stough, Jr., died February 25, 1981. He was born in 1892 in Troy, Alabama.

Dr. Stough's pre-med education was at Hendrix College and the University of Arkansas. He attended the University of Texas Medical School and was granted his M.D. by Tulane University School of Medicine in 1918. Dr. Stough's internship was with the Robert B. Green Memorial Hospital in San Antonio, Texas, and Turo Infirmary in New Orleans, Louisiana. He did post-graduate work in Detroit, Michigan.

Dr. Stough had served as chairman of the Easter Seal campaign for over twenty years. He was a member of St. Luke's Episcopal Church, a past president of the Kiwanis Club and third life member of the Salvation Army Advisory Board. Dr. Stough was a life member of the Arkansas Medical Society.

Dr. Stough is survived by his son, Dr. Dowling B. Stough, III, of Hot Springs.

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Examine Me.

During the past several years, I have heard my name mentioned in movies, on television and radio talk shows, and even at Senate subcommittee sessions. And I have seen it repeatedly in newspapers, magazines, and yes, best-sellers. Lately, whenever I see or hear the phrases “overmedicated society,” “overuse,” “misuse,” and “abuse,” my name is one of the reference points. Sometimes even *the* reference point.

These current issues, involving patient compliance or dependency-proneness, should be given careful scrutiny, for they may impede my overall therapeutic usefulness. As you know, a problem almost always involves improper usage. When I am prescribed and taken correctly, I can produce the effective relief for which I am intended.

Amid all this controversy, I ask you to reflect on and re-examine my merits. Think back on the patients in your practice who have been helped through your clinical counseling and prudent prescriptions for me. Consider your patients with heart problems, G.I. problems, and interpersonal problems who, when their anxiety was severe, have been able to benefit from the medication choice you’ve made. Recall how often you’ve heard, as a result, “Doctor, I don’t know what I would have done without your help.”

You and I can feel proud of what we’ve done together to reduce excessive anxiety and thus help patients to cope more successfully.

If you examine and evaluate me in the light of your own experience, you’ll come away with a confirmation of your knowledge that I *am* a safe and effective drug when prescribed judiciously and used wisely.

For a brief summary of product information on Valium (diazepam/Roche)® , please see the following page. Valium is available as 2-mg, 5-mg and 10-mg scored tablets.

Valium® diazepam/Roche

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

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Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

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Epidermoid Carcinoma of the Vagina in a Patient with Cerebral Gigantism

S. Seyedabadi, M.D., D. S. Bard, M.D., R. E. Zuna, M.D., H. Schedewie, M.D.,
Carlos Araoz, M.D., and M. J. Elders, M.D.*

Abstract

We have presented a young woman with cerebral gigantism, a rare dominant inherited overgrowth disorder, and subsequent development of epidermoid carcinoma of the vagina at 20 years of age. The occurrence of epidermoid carcinoma of the vagina at this age, in association with this very rare syndrome, may be more than coincidence. Review of the literature on the association of neoplasia and cerebral gigantism suggests an incidence of 6.6 percent or very similar to that reported in Beckwith-Wiedemann syndrome.

* * * *

Cerebral gigantism or Sotos' syndrome is a rare dominant inherited overgrowth syndrome with characteristic dysmorphic features.^{11, 21, 22, 26} These included large body size at birth and early childhood, distinctive facies consisting of a large dolichocephalic head, hypertelorism, antimongoloid slant of the palpebral fissures and high arched palate, long arm span, large hands and feet, accelerated skeletal maturation, hypoglycemia in infancy, early dental eruption, advanced bone age, absence of isosexual precocity and normal hormonal studies.^{11, 21, 22, 24, 26} There is reported evidence of an increased incidence of malignancies in certain overgrowth syndromes such as Beckwith-Wiedemann syndrome, neurofibromatosis, and others,^{2, 6, 19, 20} however, association of neoplasia with cerebral gigantism is less clear. The present report concerns the occurrence of an epidermoid carcinoma of the vagina in a 20-year-old patient with this syndrome and a review of other cases in the literature of cerebral gigantism associated with neoplasms.

Case report: J. M. was a 20-year-old gravida 1, para I, female who was admitted to the Univer-

sity of Arkansas for Medical Sciences (UAMS) for evaluation of menorrhagia, a documented weight loss of 59 lbs. over the last 17 months and foul vaginal discharge. She had used oral contraceptives for 2½ years after the birth of her child at age 18 years but had discontinued their use three months before admission because of the abnormal vaginal bleeding. Since age 17 she had annual pap smears which varied from class I normal to class II with mild dysplasia. The last pap smear and pelvic examination was 18 months prior to admission and had been determined normal.

Past history is significant in that there was no prior history of ingestion of diethylstilbesterol and the patient had been followed at the UAMS Endocrine Clinic since infancy because of abnormal growth and peculiar dysmorphic features. She showed early signs of psychomotor retardation, premature dental eruption, and accelerated growth during childhood. At age 7½ years, she was hospitalized for evaluation of abnormal growth and was diagnosed as Sotos' syndrome based on characteristic dysmorphic features and normal endocrine evaluation. Height at that time was 146 cm (+4.5 SD), weight 45 kg (greater than 97th percentile), head circumference 58.5 cm (+5 SD), and arm span 153 cm (+4.5 SD). The bone age was 10 years.

The patient subsequently had normal sexual development although menarche was early at age 10 years. IQ was approximately 67 and she attended a special education class. At age 18 she gave birth to a male infant who was diagnosed as also having cerebral gigantism.

Physical examination on admission revealed an emaciated, dull, female with acromegalic features, height of 167 cm, weight 44 kg, arm span 172 cm, and head circumference 60 cm. She had a prominent jaw, large head and marked frontal bossing. (Figure 1) She also had large hands and feet, pes planus, and stooped posture with the

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head protruding forward. The remainder of the physical examination was unremarkable except for tenderness over the lower abdomen.

Pelvic examination under anesthesia revealed a 6 x 4 x 3 cm exophytic and hemorrhagic mass arising from the posterior vaginal wall at the junction of the middle and upper third of the vagina. (Figure 2) Multiple biopsies taken of the vaginal tumor and cervix revealed a nonkeratinizing squamous cell carcinoma infiltrating the submucosa. (Figure 3) The endocervix and endometrium were negative for tumor. The tumor was assessed as stage II epidermoid carcinoma of the vagina.⁸ The patient received a full course of radiation therapy (7000 r/8 weeks). Careful follow-up examinations at bimonthly intervals showed evidence of recurrence of her disease and she was treated with extensive chemotherapy consisting of Cis-Platinum, Adriamycin, and Cytosin. She had no response to these therapies and expired nine months after the initial diagnosis.

Autopsy findings: At autopsy she was a markedly emaciated woman with lymphadema of both lower extremities. There was a 14 cm partially necrotic tumor mass arising from the proximal 1/3 of the almost completely obliterated vagina. This neoplasm was extending upward from the vagina with extensive invasion of the

cervix, endocervix, and body of the uterus. The neoplasm was infiltrating the broad and round ligaments. The fallopian tubes and ovaries were adherent to grey-white tumor masses on the pelvic walls. There was extensive anterior neoplastic invasion of the bladder with bilateral obstruction of the ureteral vesicle orifices and resultant severe hydronephrosis. There was moderate enlargement of the distal periaortic lymph nodes with the largest measuring up to 2 cm in greatest dimension. There was no evidence of neoplastic involvement of other abdominal organs or distant metastases.



Figure 1.

J. M. at 17 years. Note the large head, prominent jaw, frontal bossing, and protruding head.



Figure 2.

Photograph of exophytic lesion arising from posterior wall of vagina.

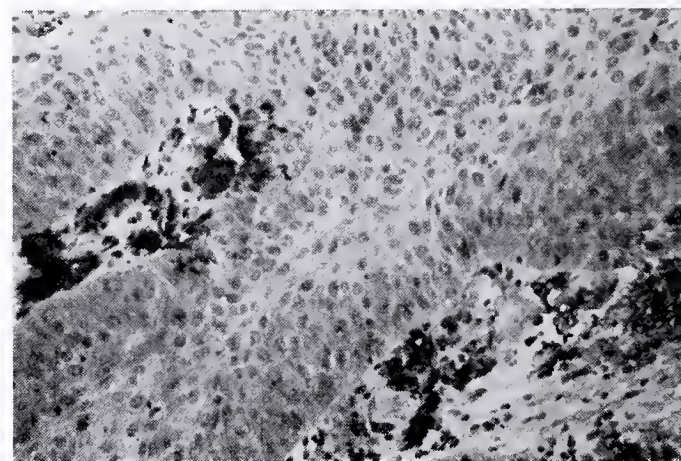


Figure 3.

Vaginal biopsy: Invasive tongues of nonkeratinizing squamous cells. (Hematoxylin and Eosin, X160).

Kidneys were enlarged and the site of extensive hydronephrotic changes. The cut surfaces were slightly gritty and multiple yellow linear deposits of urates radiated from the pyramids toward the cortex.

The lungs were moderately edematous and there was a bilateral pleural effusion (right 500 ml, left 200 ml) present. The cut surface of the liver was slightly congested in appearance, but otherwise was unremarkable.

There were no gross abnormalities of any of the endocrine organs.

The calvarium was not increased in thickness. The brain weighed 1500 gm in the fresh state and had the gross appearance of mild megalencephaly. Externally it exhibited normal convolutions. Sectioning disclosed only minimal ventricular dilatation.

Microscopic findings: Microscopic examination of the neoplastic mass disclosed a moderately well differentiated squamous cell carcinoma. There were focal areas of necrosis and some of the neoplastic cells demonstrated mild keratinization and intercellular bridges. Sections taken at the ureteral vesicle orifices disclosed neoplastic infiltrates surrounding and compressing the ureters. Sections of the ovaries and fallopian tubes showed fibrous, atrophic changes; however, no neoplastic infiltrate was present.

The kidneys displayed extensive hydronephrotic changes with the tubular epithelium undergoing moderate to severe autolytic changes.

Sections through the enlarged distal periaortic lymph nodes disclosed reactive lymph nodes with tremendous numbers of mott cells present. Contained within the lymphatic duct adjacent to one of these nodes were aggregates of neoplastic cells.

The bones were the site of mild resorptive changes. Examination of costochondral junctions disclosed none of the changes consistent with either active or inactive acromegaly and were essentially unremarkable.

The parathyroid glands contained little stromal fat but were not enlarged. They were consistent with either the upper limits of normal (for this age group) or mild hyperplasia as a secondary change due to renal failure. Examination of the other endocrine glands was unremarkable.

Sections of the cerebrum disclosed no microscopic abnormalities. Section of the vermis cerebelli displayed a decreased cellularity of the

internal granular cell layer with focal loss of purkinje cells lining it, consistent with parenchymal cerebellar degeneration.

Sections of the lung disclosed pulmonary edema and large numbers of hemosiderin laden macrophages representing chronic passive congestion. The pulmonary septa were the site of mild fibrotic changes in focal areas but otherwise were unremarkable. There was no evidence of neoplasia.

There were congestive changes in the liver manifested by dilated central veins with congestions of the surrounding sinusoids by intact RBC's and thinning of the laminar plates surrounding the central veins. Some of the nuclei of the hepatocytes displayed mild reactive changes but otherwise were unremarkable.

Discussion

Our patient presented most of the common clinical findings which have been associated with cerebral gigantism.^{11,17,21,22} In 1972, Jaeken and his associates¹¹ reviewed 80 cases and found the most common clinical findings were: gigantism (100 percent), prominent forehead (96 percent), high arch palate (96 percent), hypertelorism (91 percent), dolichocephaly (84 percent), developmental retardation (83 percent), large hands and feet (83 percent), pointed chin (83 percent), advanced bone age (74 percent), lack of fine motor control (67 percent), premature eruption of teeth (57 percent), and neonatal hypoglycemia or feeding difficulties (44 percent). Most of the patients were noted to be large at birth with a mean birth weight greater than 3400 gm and to have a mean birth length of 55.2 cm. These patients usually grew excessively during the first four years of life, having an advanced height, weight and bone age with rather striking acromegalic features. Since there are no pathognomonic features of this syndrome, one must rely on clinical descriptions. A review of patients reported in the literature who fit the clinical description of this syndrome and developed neoplasia are shown in Tables 1 and 2.

Hooks and Reynolds¹⁰ reported on two children with cerebral gigantism and neoplasia, a one-year-old child with cerebral gigantism, cafe-au-lait spots and a neuroectodermal tumor, and a seven-year-old boy with an osteochondroma. Poznanski, et al,¹⁸ described a two-year-old child with Wilms' tumor. Evans reported on a 13-year-old patient with a mixed parotid tumor.⁵ Abraham and Snodgrass found scattered cavernous

Table 1.
Reported Neoplasms Associated With Cerebral Gigantism

Case	Reference	Year	Neoplasm	Age (yrs.) at Diagnosis
1	Hook & Reynolds (10)	1967	Neuroectodermal Tumor	1
2	Hook & Reynolds (10)	1967	Osteochondroma	7
3	Poznanski & Stephenson (18)	1967	Wilms' Tumor	2
4	Evans (5)	1971	Mixed Parotid Tumor	13
5	Abraham & Snodgrass (1)	1969	Cavernous Hemangiomata	Birth
6	Sugarman, et al (24)	1977	Hepatocarcinoma	14
7	Seyedabadi, et al		Vaginal Carcinoma	20

Table 2.
Clinical Features of Cases of Cerebral
Gigantism With Subsequent
Development of Neoplasia

Developmental Features	Cases						
	1	2	3	4	5	6	7
Birth Weight > 75th percentile	*	*	NA	†	†	*	*
Accelerated Growth	*	*	*	*	*	*	*
Advanced Bone Age	†	*	*	*	*	*	*
Mental Retardation	*	*	*	*	*	*	*
Birth Length > 75th percentile	†	*	NANA	NANA	*	*	*
Physical Features							
Macrocephaly	*	*	*	*	*	*	*
Prognathism	*	*	*	*	*	*	*
High Arched Palate	*	*	*	*	*	*	*
Increased Arm Span	*	*	*	*	*	*	*
Large Hands & Feet	*	*	*	*	*	*	*
Other Orthopedic Problems	NANA	NANA	*	*	NA	*	*
Acromegalic Features	*	*	*	*	*	*	*

NA = Information Not Available
* = Present † = Absent

hemangiomata in one of their patients.¹ Sugarman, et al, reported on a boy with cerebral gigantism who developed hepatocarcinoma at 14 years of age,²⁴ while our patient had a primary carcinoma of the vagina at age 20 years. There had been no prior history of in utero exposure to diethylstilbesterol which may be associated with later malignancies of the urogenital tract.^{9,16} The incidence of squamous cell carcinoma of the vagina to that of cervical carcinoma is about 1:50 and the average patient is between 48 and 55 years of age.^{12,16} The occurrence of this unusual carcinoma at a relatively early age would suggest more than chance occurrence.

In these cases there does not appear to be any particular type tumor specifically associated with this syndrome as is seen in some of the other genetic disorders associated with neoplasms; however, further reporting of these cases may delineate a trend. Primary carcinoma of the vagina as seen in our patient is the least common form of

tumor of the female genitalia making up only one percent of all congenital malignancies.¹²

The occurrence of neoplasms in association with overgrowth syndromes have been described in the literature, especially in association with the Beckwith-Wiedemann syndrome.^{2,6,19,20} The association of neoplasms with cerebral gigantism, however, have only occasionally been observed^{1,5,10,18,24,26} while the incidence of tumors in association with Beckwith-Wiedemann syndrome is reported to be between 6.5 percent and 10 percent.^{19,22} Review of the literature of the cases reported with cerebral gigantism shows of the 105 cases reported^{1,5,10,18,22,24} there have been seven cases of neoplasia including our case, making an overall incidence of neoplasms in reported cases of 6.6 percent, or very similar to the overall incidence in Beckwith-Wiedemann syndrome. Other association of congenital malformation and specific neoplasms include von Recklinghausen's disease in which 30 percent of the cases may develop sarcomatous transformation after age 50.^{2,13,15} Virtually all patients with multiple familial polyposis of the intestine eventually develop carcinoma of the colon.² The association of hemihypertrophy with Wilms' tumor, adrenocortical tumors or liver neoplasms have been reported.^{2,7,12,13,25} The increased risk of neoplasia, especially intra-abdominal tumors such as Wilms' tumor and nephroblastomatosis with Beckwith's syndrome, is well documented as well as the association of cutaneous vascular nervi.^{2,6} In Beckwith-Wiedemann syndrome there is a marked increase in the incidence of neoplasms in patients manifesting asymmetry 1:12. The frequency of asymmetry is 1:32 in children with Wilms' tumor, in children with adrenal cortical carcinoma 1:31, and in children with hepatoblastoma 1:35, all of which are closely comparable.^{19,20}

Another high risk group of patients are those with the autosomal dominant trait disease of

multiple mucosal neuromas in whom medullary thyroid carcinoma may occur within the first few decades of life. It appears to be a variant of multiple endocrine adenomatosis type II and because of their distinctive physical appearance may be identified within the first years of life if not at birth.³ There is strong evidence for autosomal dominant inheritance of this syndrome and in our patient there is evidence of autosomal dominant inheritance in that our patient's mother, brother, and the patient's son are reported to have this syndrome.²⁶

Chromosomal aberration is also associated with increased risk of malignancy. There is an increased incidence of leukemia, retinoblastoma, and testicular tumor in Down's syndrome.^{2,15} There is also an increased incidence of testicular teratoma in Klinefelter's syndrome² and a case of this syndrome with six histologically distinct tumors in sequence, five of them malignant, in a male patient would appear to have significance beyond mere chance occurrence.⁴

The present case report adds another patient with cerebral gigantism presenting with an exceedingly rare type of vaginal malignancy at an early age in life. Description of previous cases in addition to our patient make the high incidence of cancer in overgrowth syndromes clear but the exact pathophysiology remains to be discovered. We suggest that cerebral gigantism may need to be included under dysgenetic syndromes with an increased propensity for malignant neoplasias and should be carefully searched for by pediatricians and other physicians involved with the care of such patients.

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Oculoglandular Tularemia – A Case Report

Carol W. Chappell, M.D., Jay Brainard, M.D., and John P. Shock, M.D.*

Abstract

Oculoglandular tularemia was diagnosed in a 57-year-old black male who was admitted to the surgical service of the Veterans Administration Hospital in Little Rock for evaluation of gastrointestinal complaints. In addition to his symptoms the patient had a severe conjunctivitis on the right which had been present for two weeks. All symptoms subsided rapidly following treatment with streptomycin.

Introduction

Oculoglandular tularemia is the rarest form of tularemia and is estimated to occur in less than 1% of all cases.¹ Out of 42 cases of tularemia recorded with the Arkansas State Health Department in 1979 this paper reports the only case of oculoglandular tularemia. Only two cases of oculoglandular tularemia have been seen at the University Hospital in Arkansas during the past four years.

Onset of the disease usually occurs within 10 days after exposure to the organism *Francisella tularensis*, a small, nonmotile, gram negative coccobacillus. Man is a very susceptible host for the organism and can be infected with fewer than 50 organisms by the intracutaneous and respiratory routes. The organism can also invade intact or subclinically traumatized skin.¹

Report of Case

In June of 1979 a 57-year-old black male was referred to the Veterans Administration Hospital in Little Rock for evaluation of gastrointestinal complaints and a conjunctivitis of his right eye. The patient had initially sought medical help for his right eye two weeks earlier when he had developed inflammation, irritation, and epiphora. At the time of his admission he was being treated with sulfa drops and polysporin ointment, apparently without improvement. The patient also complained of nausea, vomiting after meals, and constant abdominal pain made worse by eating. He had previously been treated for peptic ulcer disease at the Veterans Administration Hospital, and was admitted to the surgical service with a tentative diagnosis of recurrent peptic ulcer disease.

In addition to peptic ulcer disease the patient had a history of hypertension controlled with medication. The patient lived with his mother in rural Arkansas and denied other medical problems. Initially his medical history was negative for any exposure to ocular or systemic infectious agents or vectors.

Examination on admission revealed an ill-appearing, somewhat confused black male who was unable to tolerate an oral diet. Temperature upon admission was 101° and rose to 103° on the third hospital day. Ocular examination on admission revealed a granulomatous conjunctivitis of the right eye. The conjunctiva was markedly injected and chemotic with multiple firm, non-movable nodules present on the bulbar conjunctiva. (Figure 1) A moderate amount of mucopurulent discharge was present. Best corrected visual acuity was 20/40 in the right eye and 20/20 in the left eye. Large, tender preauricular nodes and submandibular nodes were present on the right side. The remainder of the examination was unremarkable with the exception of bilateral macular drusen. A diagnosis of Parinaud's oculoglandular syndrome (granulomatous conjunctivitis in association with regional adenopathy) was made and a laboratory investigation was initiated to determine the etiology.

Conjunctival scrapings revealed increased polymorphonuclear leukocytes and occasional gram

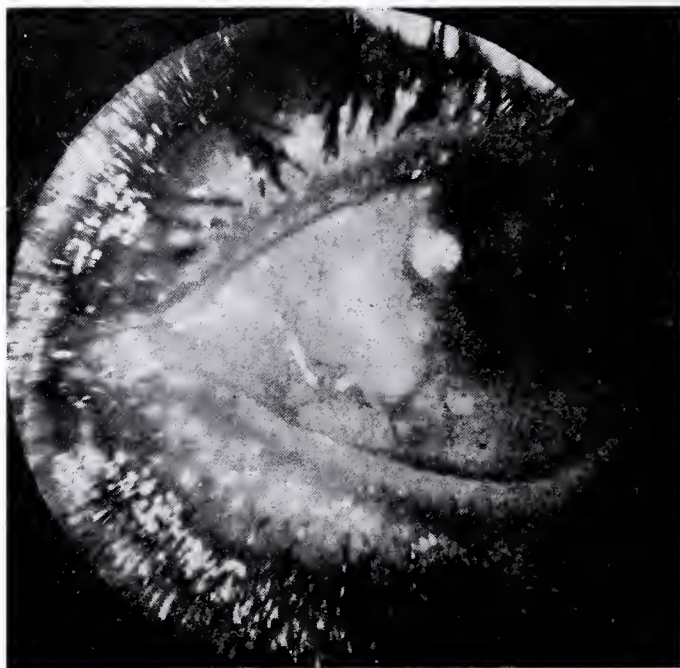


Figure 1.
Conjunctival granulomas at the time of diagnosis (July 1979).

*From the Little Rock Veterans Administration Hospital, 300 E. Roosevelt Road, Little Rock, Arkansas 72206, and the Department of Ophthalmology, University of Arkansas for Medical Sciences, 4301 West Markham Street, Little Rock, Arkansas 72205.

positive and gram negative organisms. Cultures of the conjunctival scrapings were negative for growth on routine culture media. Further evaluation of the patient included hematological profile and blood chemistries, chest x-rays, TB skin test, FTA-ABS, VDRL, fungal serology, febrile agglutinins, and upper GI series. Abnormal findings included an alkaline phosphatase of 149, SGOT of 46, and a serum K of 2.2. Upper GI series demonstrated a hiatus hernia with gastroesophageal reflux.

The tularemia titer was most remarkable with a positive dilution of 1:1600. A presumptive diagnosis of oculoglandular tularemia was made, and the patient was begun on Streptomycin, one gram I.M., b.i.d. After three days the dose was reduced to 759 mg I.M., b.i.d., and continued at this level for the remainder of the 14 days of therapy.

The patient became more mentally aware after the initiation of systemic therapy, with rapid subjective improvement in his gastrointestinal complaints and decreasing ocular irritation. The patient was soon able to tolerate an oral diet, and by the third day of his treatment he was afebrile.

During the treatment period the patient developed a punctate keratitis of the right eye which rapidly cleared upon discontinuation of the topical antibiotics. Upon further questioning, the patient now recalled removing a tick from his leg several days prior to the onset of his symptoms, but there was no definite history of ocular contamination.

After completion of a full course of systemic antibiotics the patient was discharged, and on follow-up was found to be without ocular or systemic complaint; he was eating well and gaining weight. Ocular examination on 10/29/79 was normal with the exception of faint, tan-colored nodular lesions of the conjunctiva inferiorly and temporally in the right eye. (Figure 2) The lymphadenopathy had resolved. Convalescent tularemia titer at that time was positive to a dilution of 1:800.

Discussion

Although many arthropods are capable of transmitting tularemia, rabbits and ticks are the principle reservoirs in nature, and a history of exposure to some vector can be elicited in approximately 50% of cases. Ticks are by far the major vectors associated with tularemia infections in man throughout all states west of the Missis-

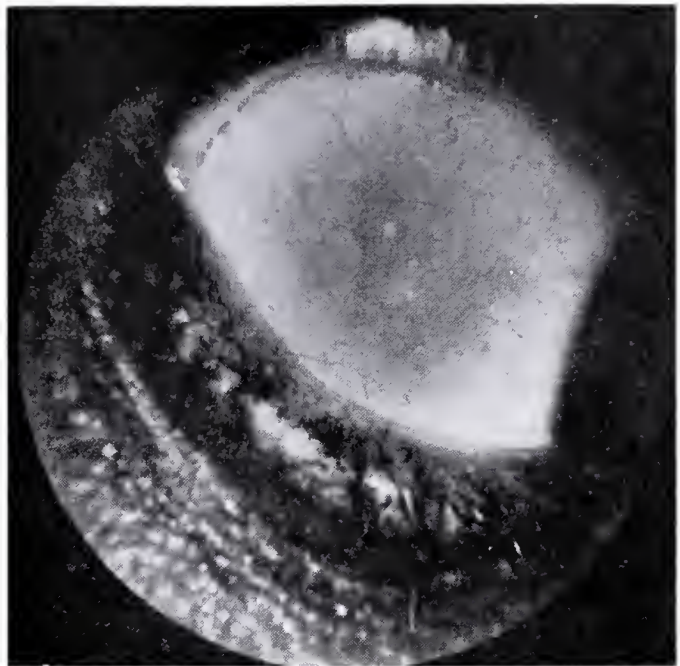


Figure 2.
Resolving conjunctival granulomas at follow-up examination (November 1979).

sippi River. Most cases are reported in the summer months, when increased summer activity permits exposure to these organisms. In contrast, in eastern and southern Atlantic states the seasonal predominance of tularemia is in the winter months. The principle vector in these areas is rabbits, and the exposure is related to rabbit hunting season.³

Following the incubation period of 3-5 days, the disease may take one to four different forms: ulceroglandular, pneumonic, typhoidal, or oculoglandular. The most common form of the disease is the ulceroglandular form, which occurs in 60-80% of cases. Following exposure to the organism there is the formation of a papule at the site of entry of the organism and enlargement of the regional lymph nodes. These papules then progress to ulceration. The pneumonic form of tularemia may occur primarily from inhalation of dust or droplets containing the organism, or it may occur secondary to the other forms of tularemia from which it may be spread via the hematogenous route. Typhoidal tularemia occurs without obvious primary ulcer or lymphadenitis, and the presumed sites of entry are the pharynx and lungs. Although constitutional symptoms may be prominent in any of the clinical forms of tularemia, the prostration in the typhoidal form may be greater. These symptoms may include malaise, fever, chills, headache, and vomiting.⁴

Systemic involvement of any of the above forms may include the spleen, liver, kidneys, lungs,

lymph nodes, and bone marrow. Rarely, ingestion of contaminated meat or water may result in primary lesions in the gastrointestinal tract, producing diarrhea, abdominal pain, nausea, vomiting, melena and hematemesis.⁴

The oculoglandular form of tularemia is characterized by the formation of small, yellow-white granulomatous lesions on the palpebral conjunctiva, swelling of the eyelids, excessive lacrimation, photophobia, and mucopurulent discharge. The portal of entry is invasion of the organism through the lid or conjunctiva. Regional lymphadenopathy may occur in the preauricular, submaxillary, and anterior cervical lymph nodes and may progress to suppuration. Corneal ulceration, scarring, or perforation of the globe may occur. The usually benign tularemic conjunctivitis may infrequently lead to fatal systemic disease.⁵

The differential diagnosis of tularemia is quite extensive. Other causes of Parinaud's oculoglandular syndrome include cat scratch disease, syphilis, tuberculosis, fungal diseases (including sporotrichosis, coccidioidomycosis, and blastomycosis), Streptothrix, sarcoid, lymphogranuloma venereum, Haemophilus ducreye, mumps, infectious mono, as well as other less common causes.

The body reacts to the necrotizing toxin of *F. tularensis* by developing agglutinins by the second week of the disease. These usually peak at about the third week of the disease.⁶ Bacterial agglutination generally becomes positive from 14 to 31 days after inoculation. An agglutination titer of 1:80 or greater is considered diagnostic.⁷ Dermal hypersensitization can be measured by the tularemia skin test, although this test is not generally available. Culture or bacterial inoculation of *F. tularensis* in the laboratory may be difficult and carries a significant danger for laboratory personnel.

Response to appropriate antibiotic therapy is usually rapid if begun within the first two weeks

of the disease. Systemic Streptomycin is the preferred antibiotic, but Chloramphenicol and Tetracycline are also considered appropriate medications for the treatment of oculoglandular tularemia. The mortality rate in untreated tularemia is 6 to 7%.⁴

Summary

A 57-year-old black male presented to the Veterans Administration Hospital in Little Rock with ocular and gastrointestinal complaints. Examination revealed a granulomatous conjunctivitis with associated preauricular adenopathy consistent with Parinaud's oculoglandular syndrome. A diagnosis of oculoglandular tularemia was confirmed by laboratory investigation and the patient made a full recovery following appropriate antibiotic therapy.

Although extremely rare, oculoglandular tularemia is seen in this region and should be considered in the differential diagnosis of any patient seen with oculoglandular syndrome of Parinaud.

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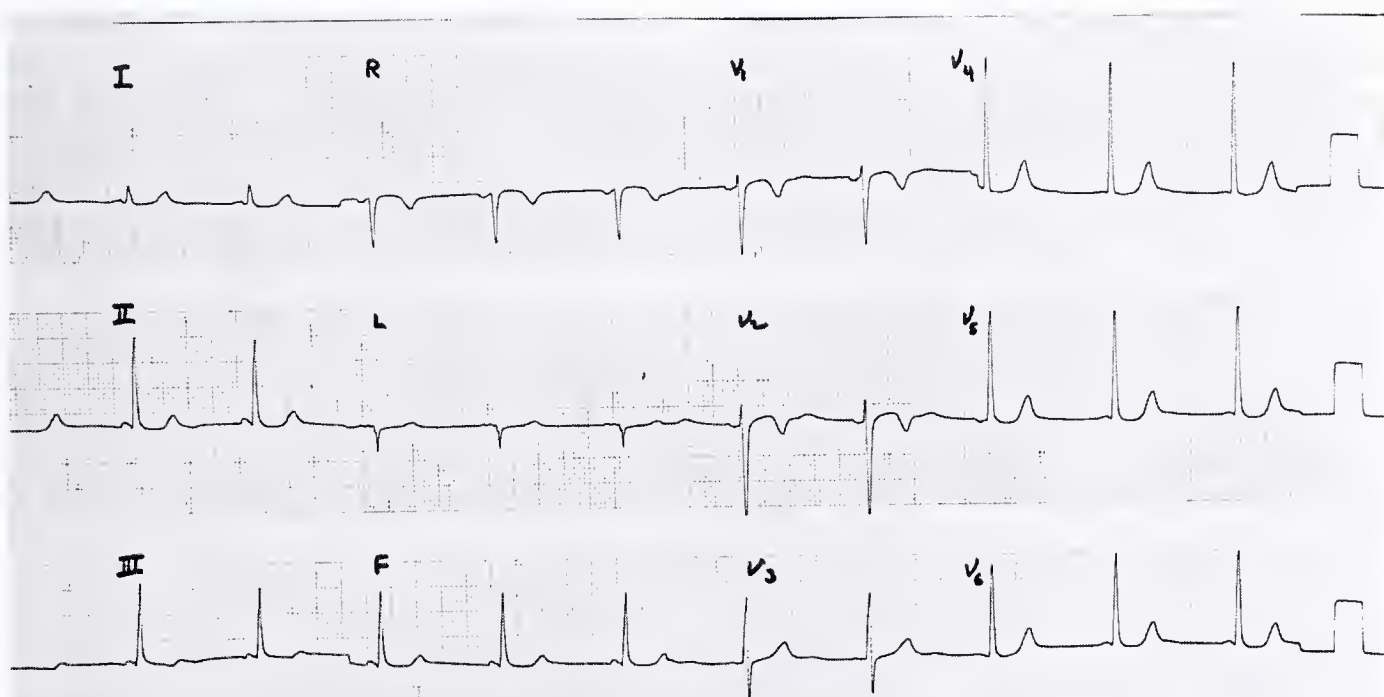




The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 135)

HISTORY: M. P. is a 40-year-old woman with no cardiovascular symptoms. She was scheduled for elective gynecologic surgery and the preoperative ECG shown below was obtained. The patient's cardiovascular examination, except for accentuation of S₁, was normal. An ECG obtained five years previously was identical to the current trace. What does the trace show?



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Office Orthopaedics

Fracture of the Lateral Tibial Plateau

I. Leighton Millard, M.D.*

Force against the lateral side of the knee producing a valgus strain may result in this fracture.

In the elderly, osteoporotic person, only a small amount of force may cause significant bony damage.

On the other hand, this fracture is often part of multiple injuries resulting from motor vehicle or motorcycle accidents. In these cases, definitive treatment of this fracture may have to be delayed because of other more serious injuries. Good knee joint function can be restored by surgical treatment as late as three to four weeks after injury.

These fractures have been known as bumper or fender injuries, but should be suspected in any fall that results in swelling, pain, and hemarthrosis of the knee, especially if the bloody effusion is flecked with droplets of fat.

Careful x-rays are necessary to assess the lateral tibial plateau. These should be AP, lateral, oblique, tunnel and 10 degree caudal views of both knees. Many fractures of the central depression type (See Figure 1) or undisplaced cleavage fractures may be very difficult to spot on x-ray without comparison views. It is also necessary to view these x-rays with a high degree of suspicion, because significant intra-articular damage may become evident only at the time arthrotomy is performed.

It is also important to remember that damage to the medial collateral ligament and/or the lateral meniscus may require surgical intervention even in those cases that do not seem to require bony surgical repair. Assessment of ligament dam-

age may require stress testing under general anesthesia.

Accurate and continued examination of the neurological and circulatory functions of the leg are also necessary. In those cases of massive force to the leg, anterior compartment syndrome must be considered, and multiple observations made for increasing swelling, pain, or paresthesias.

In the assessment of these fractures, it is important to consider Schatzker's classification. Any of these six types of tibial plateau fractures re-

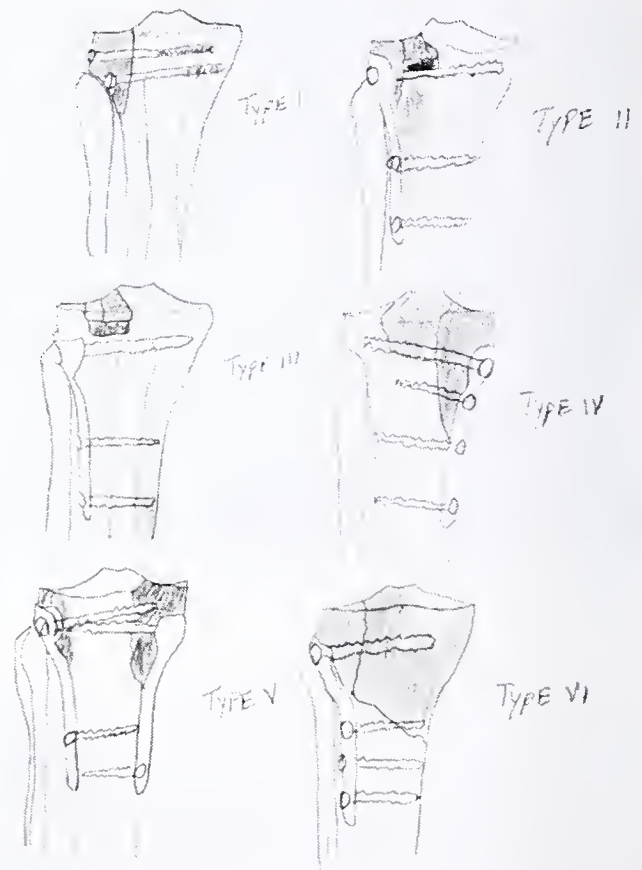


FIGURE I

*Little Rock Orthopedic Clinic, P.A., 9500 Lile Drive, P. O. Box 5270, Little Rock, Arkansas 72215.

quire open reduction, elevation of depressed fragment and internal fixation, if a displacement of five (5) millimeters or more is present. Those fractures where comminution is present require bone grafting to support the articular surface of the tibia and maintain the integrity of the joint.

The undisplaced fracture, however, may be adequately treated by closed reduction and casting if the ligaments and menisci of the knee are undamaged.

With either open or closed reduction treatment, it is advisable to have three to four months of non-weight bearing treatment, but joint motion as soon as fracture stability will allow is highly desirable.

This early motion is important because the articular cartilage gets better nourishment and joint adhesions, i.e., stiffness, are avoided. Reference to Figure 1 will provide some insight into the basic six types of tibial plateau fractures. We are concerned here with Types I, II, III, V, and VI. This figure also depicts some common internal fixation techniques. The shaded areas indicate fractured bone and, in some instances, bone graft material.

Type I, also known as a cleavage fracture; and Type II, known as a cleavage and depression fracture, may be either displaced or undisplaced.

Type III, a pure depression fracture, often requires surgical treatment.

Types V and VI, combining both medial and lateral fractures, most commonly require surgical treatment.

In summary, the basic principles of evaluation and treatment in regard to fractures of the lateral tibial plateau are:

- 1) Careful clinical assessment of the knee joint as to the presence of fat in the bloody effusion, ligamentous stability, and adequate circulatory function.
- 2) Careful review of comparison x-rays in order to assess the presence and degree of bony injury.
- 3) Accurate anatomic reduction of the weight bearing surface of the tibia.
- 4) Rigid fixation of the fracture or fractures.
- 5) Early active motion, but late weight bearing.

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EDITORIAL

Some Pulmonary Problems

Alfred Kahn, Jr., M.D.

Of interest to the profession are the strides made in understanding pulmonary physiology and the disorders of pulmonary function. From the Cleveland Clinic Foundations comes an editorial summary of "central alveolar Hypoventilation Syndromes" by Ahmad Cressman and Tomashefski (*Archives of Internal Medicine*, Vol. 140, page 29, January 1980). They discuss five entities in abbreviated form. Firstly, primary alveolar hypoventilation is reviewed. This is a disorder stemming from improper responsiveness to carbon dioxide by the central chemoreceptors.

The authors state that so-called primary alveolar hypoventilation is the result of the central chemoreceptors failure to react to carbon dioxide — despite normal lungs. Early symptoms are said to be somnolence and irritability from expansion of the cerebral arteries. Interestingly, dyspnea is not a prominent symptom. These patients can voluntarily ventilate with conscious effort and restore their blood gases to a normal range. Two therapies suggested are electric diaphragm pacing and Medroxyprogesterone 20 mg. t.i.d.

Another type is the obesity hypoventilation syndrome. Ahmad, et al, state can be primary alveolar hypotension plus obesity, but there is another type in which the overweight seems to play a role — Pickwickian Syndrome. Weight reduction is recommended but is not always successful.

Sleep apnoea is the third form of hypoventilation discussed; they use three diagnostic categories: Central, obstructive, and mixed with central sleep apnoea there is no bellows function of the chest and no flow of air from the mouth. Obstructive sleep apnoea is the result of over-activity of the pharyngeal muscles. The sleep apnoea symptoms include somnolence, nocturnal cardiac arrhythmias, morning headache, etc. This

disorder may require diaphragmatic pacing or surgical bypass of an obstructive lesion.

Hypercapnic chronic obstructive lung disease is described by Ahmad as the pink puffers with emphysema and blue bloaters who have chronic bronchitis. The blue bloaters have diminished respiratory responsiveness compared to the emphysema cases.

Lastly the authors briefly describe the sudden infant death syndrome as being partly attributable to a malfunctioning respiratory center.

Another interesting article on respiratory disorders is R. C. Bone's "Treatment of Severe Hypoxemia Due to the Adult Respiratory Distress Syndrome" (*Archives of Internal Medicine*, Volume 140, page 85, January 1980). Bone reports that there are 150,000 cases of adult respiratory distress annually, and they are often in the younger age group. The pathophysiology is said to be due to increased alveolar capillary permeability which leads interstitial edema, fluid in the alveoli and micro atelectasis. This edema leads to a number of events including reduced air left in the lung at the end of expiration; lung distensibility is diminished; the dead space increases; there is right to left shunting in the lung.

Bone recommends seven measures to prevent adult respiratory distress syndrome: "restoration of circulatory volume after shock, leaving endotracheal tube in place until patient is fully awake; encourage sighing; changing position frequently; using blood filters; using antibiotics and adrenal steroids early for suspected sepsis; using hyperalimentation early for major injury with inadequate nutrition."

The author recommends treatment aimed at increasing tissue oxygenation which means first of all the careful use of oxygen. 100% oxygen care can cause "toxic" problems including death.

The oxygen has to be administered to the patient in a correct manner. All physicians are familiar with nasal oxygen. Other methods are intermittent positive pressure ventilation in which air is forced into the lungs; the lungs push the air out against atmospheric pressure. PEEP is positive and expiratory pressure in which more than atmospheric pressure is maintained in the expiratory phase of breathing. Continuous positive airway pressure consists of a higher than atmospheric pressure during inspiration and expiration.

Bone states that PEEP can be used with a respirator or with voluntary breathing; with the latter it may produce fatigue, and it may decrease cardiac output by slowing down the venous return to the heart. He recommends mechanical ventilation with 100% oxygen if the PO₂ is less than 60 mmHg; the oxygen percent is later reduced to maintain PO₂ of 60 mmHg. PEEP or CPAP is used if the PO₂ cannot be maintained at 60 mmHg without dangerous oxygen levels. Bone reports that PEEP may be used at very

high levels — even if cardiac drugs are necessary to maintain output. He does not recommend routine sedation or paralysis when using a machine to maintain ventilation. Sedation should be used with a restless patient. A warning is given against permitting the patient to develop respiratory alkalosis because of decreased cardiac output, irregular heart rhythms, diminished blood flow in the brain, etc.

Bone states that adrenal steroids are not helpful in adult respiratory distress syndrome. Since there are many complications when mechanical respiration is used, monitoring is essential. He monitors airway pressure especially if a higher peak pressure is required — to determine if there is a mucus plug or bronchospasm as contrasted to that obtained from increased elastic recoil of the pulmonary and skeletal structures. Hemodynamic monitoring is also recommended; a useful measurement here is the mixed venous oxygen tension plus appropriate use of PO₂. Lastly, Bone suggests using the pulmonary wedge pressure; a rise is harmful.



"From Other Years"

Journal of the Arkansas Medical Society

Vol. 1 No. 9 March, 1891 p. 435

PERSONAL

Dr. W. B. Welch, of Fayetteville, was recently in Little Rock attending a meeting of the board of trustees of the State University.

Dr. F. W. Johnson was sent by the Sebastian County Medical Society to look after medical matters in the Legislature. If all the County Societies in Arkansas were as wide awake as the Sebastian, what a powerful organization of her medical men Arkansas would have.

Dr. J. C. Wallis, of Arkadelphia was recently in Little Rock on a flying visit.

Drs. J. T. Jelks, W. H. Barry, J. B. Payne and J. C. Minor came over from Hot Springs to advocate the passage of Senate bill No. 57, to revoke physicians' licenses for certain causes, one of the chief crimes mentioned in the bill being the employing of cappers, steerers or drummers. This is a hard blow at the drumming fraternity, and they had their representatives on hand to fight the

passage of the measure, but the bill did pass, and just about the same time the Supreme Court of Missouri gave a decision sustaining a similar act in that State. This is rather "*specific*," but some Hot Springs eclectics will have to swallow it, and it is hoped it will purge them of their iniquity.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The trace shows the P-R interval to be short (0.09) sec and the QRS duration to be normal (0.08 sec).

The P waves are properly directed and no delta waves are present. This set of electrocardiographic findings is seen in the Lown-Ganong-Levine syndrome. The differential diagnosis includes ectopic atrial rhythms and AV junctional rhythm. Frequently, the P waves will be inverted in II, III, and aVF in the latter two rhythms. Paroxysmal arrhythmia, both supraventricular and ventricular, can be a feature of L-G-L syndrome and the presence of arrhythmia essentially determines the prognosis in a given patient. Indeed, patients with L-G-L syndrome may have atrial fibrillation with very rapid ventricular responses. This syndrome obviously is akin to the Wolff-Parkinson-White syndrome.

*From the University of Arkansas for Medical Sciences Library, History of Medicine/Archives Division.

MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

Within a span of seven days in May the Administration achieved an historic triumph in Congress, with the House and then the Senate approving budget resolutions to cut federal spending by more than \$40 billion.

The serious opposition to the economy drive came in the House where the Democratic leadership made a party issue of a substitute budget plan that would not have cut so deeply. More than \$2 billion of health program reductions would have been restored under the Democratic budget, but the Republican plan hewing to the Administration's lower levels easily prevailed, 253 to 176.

The Senate followed suit the following week with a budget resolution tailored to the Administration's specifications. A conference committee has ironed out the relatively minor differences between the two measures.

Only eighteen Democrats and two Republicans resisted the economy wave in the Senate as the Administration plan sailed through 78-20. Among those voting for the measure was Senate Democratic leader Robert Byrd (D.-W. Va.). Senate Budget Committee Chairman Pete Domenici (R.-N. M.) said the vote "clearly indicates the Senate is prepared to change its spending habits. . . . Over the long run we have started a trend toward fiscal sanity."

Before the final vote, the Senate buried, 81 to 17, a proposal by Sen. Donald Reigle (D.-Mich.) to pare defense spending by \$2 billion and increase social program spending the like amount.

As a result of the actions, the committees of Congress are now forced to review their legislative agendas to decide where programs must be cut in order to conform to the spending ceilings imposed by the resolution.

The Democratic budget plan that foundered in the House would have forestalled the two major reductions in health sought by the Administration — the five percent "cap" on federal Medicaid contributions next fiscal year and the block grant, 25 percent funding cut plan for Public Health Service categorical grant programs. The alternate

budget also proposed continuation of two health programs marked by the Administration for phasing out — Health Planning and Professional Standards Review Organization (PSRO).

The Senate Finance Committee moving to cut programs within its jurisdiction, approved major changes in health programs. The committee voted to cut Medicaid spending next fiscal year by \$800 million by reducing the federal minimum contribution to the states to 40 percent from the present 50 percent. At the same time, the "cap" on increased federal outlays for the program was lifted to nine percent.

The committee also raised the Medicare Part B deductibles and premiums, reduced the Medicare nursing differential from the present 8.5 percent to 4.5 percent, and made retired federal employees' private health insurance pick up the tab first before Medicare kicked in. Some \$1.2 billion of Medicare spending would be saved.

The House Ways and Means Health Subcommittee is considering similar legislation.

The House budget vote was preceded by intense lobbying by both sides. Democratic committee chairmen warned in House speeches that the House's hands would be tied to the Reagan economies for the rest of the year, if the President's plan were approved.

Reagan met personally with most of the Democrats who finally voted his way. The 63 bolting Democrats provided an easy win for the Administration as they joined all Republican members of the House.

* * * *

The Administration has sent Congress its formal recommendations for changes in Medicaid and Medicare, including the "cap" of five percent on federal Medicaid outlays aimed at saving \$1 billion next fiscal year.

The federal ceiling would be about \$17 billion next fiscal year. In the future the limit would be allowed to rise with the rate of inflation. The cap is necessary to control Medicaid costs, the Administration said.

"With the flexibility available through the Administration's proposed revisions in program re-

quirements, cost restraint can be achieved by the states without reducing necessary services for the needy. The states would be able to design programs which will provide for health care delivery in much more economical and efficient ways," said the Health and Human Services (HHS) Department in a statement.

The most controversial of the recommendations would repeal the freedom of choice requirement in present law which gives Medicaid beneficiaries the right to choose their facility or physician. This would be replaced by a requirement "to provide standards that afford medical care of adequate quality." HHS said this change would allow states "to effect significant cost savings while maintaining quality care, for example, by soliciting competitive bids for provision of covered services."

In addition, all federal requirements on the amount and method of reimbursement of providers would be eliminated. This includes the present requirements for reimbursement of inpatient hospital services as well as "barriers in the law to reimbursement based on fee schedules." Provisions which "have restricted the use of health maintenance organizations" in providing Medicaid care were lifted.

The legislation calls for a phase-out of the "costly and burdensome" Professional Standards Review Organization (PSRO) activities for both Medicaid and Medicare. "Effective PSROs would be supported until 1983. States would have discretion to determine the most appropriate form of review and to set up state utilization review requirements. Effective PSROs would be able to compete for state or private contracts within the health care system."

Eliminated would be federal requirements for hospital and nursing home utilization review plans and committees. PSRO agreements could be terminated on 90 days notice without formal hearing or judicial review. State PSRO coordinating councils would be ended.

The legislative changes in Medicare were less controversial but were intended to save about the same amount of money — \$1 billion. Private health insurance companies, including Blue Cross-Blue Shield, would be affected by a proposal to phase-in over a five-year period competitive bidding for award of contracts for claims processing. Medicare would be allowed to contract with any public or private organization for

claims processing. HHS contended incentives for efficiency and economy don't exist under the present non-competitive bidding structure and anticipated savings of some \$120 million a year by 1985.

Other proposed Medicare changes:

- New civil financial penalties for provider fraud and abuse and ability to bar offenders from participating in the program.
- Elimination of the higher rate of reimbursement for routine nursing care for Medicare patients.
- Reducing or eliminating relatively minor benefit expansions adopted by Congress last year, including outpatient alcohol detoxification and outpatient rehabilitation facilities and unlimited home health service visits.
- Elimination of federal and state renal disease networks.

* * * *

The Health Planning Act "is ill conceived, beyond salvage and must be repealed," the American Medical Association has told the National Council on Health Planning and Resources Development.

Since its inception, the planning program has not been responsive to local needs and circumstances, the Council was told by Lonnie Bristow, M.D., a member of the AMA Council on Medical Service. Planning has developed into a "bureaucratic maze of plans, applications and red tape that unduly delayed the development of needed projects and substantially increased individual project costs," Dr. Bristow told the meeting, conducted by HHS.

Urging repeal of the program, which the Reagan Administration has proposed phasing out, Dr. Bristow said planning has inhibited market forces needed to strengthen competition in the health care marketplace and "represents the antithesis of a free market system by establishing barriers to free entry by qualified providers in the marketplace."

The AMA official said the Association is committed to seek improvements in the health care delivery system through a voluntary system that will reduce or eliminate barriers to the provision of high quality medical and health services. Dr. Bristow called for a collaborative effort at the community level.

Legislation to repeal the Health Planning Law has been introduced in Congress by Reps. Richard

Shelby (D.-Ala.) and Phil Gramm (D.-Texas).

The repeal legislation was strongly supported by the AMA which said repeal "is absolutely necessary to end federal interference in local planning decisions."

Noting that an end to funding, as the Administration recommends, does not end the federal requirement that states enact conforming certificates-of-need laws, the AMA said flat repeal won't be an easy task.

Listing its objections to the program in a "legislative alert" statement, the AMA said planning imposes federal regulations upon what should be primarily locally-directed health planning. The program is not cost-effective and is anti-competitive, "creating barriers to market entry through burdensome certificate-of-need and other approval requirements," the AMA said.

The highly-complex law and regulations cause "excessive" time and resources devoted to red tape instead of delivery of care, the AMA said.

* * * *

People don't realize the health hazards of smoking, the Federal Trade Commission staff has said in a report to Congress.

The report mentions a number of options that might be taken to alert the public, including:

- Increasing consumer education.
- Making the current warning label on cigaret packages and ads larger and/or more specific.
- Requiring different warnings at different times.
- Starting an industry-self-regulation program.

The staff report, which leaves it up to Congress what steps to take, concludes that the evidence accumulated over the past two decades establishes that cigaret smoking is more dangerous than was thought in 1964 when the first Surgeon General's report was issued. Present warning requirements apparently do not educate the public on the dangers, the report said.

* * * *

Legislation to limit special pay for Veterans Administration physicians and dentists has been opposed by the AMA. Passage "would definitely have an adverse impact upon the ability of the VA to recruit and retain adequate physician staff," the AMA said in a letter to the Senate Veterans' Affairs Committee. The measure before the Committee would allow only 12 percent of the total appropriation for VA physician and dentist pay to be expended for special pay.

"The AMA firmly believes that all physicians in federal employ should receive an equitable and comparable salary and benefits," and the bill "would be a step away from this goal," said AMA Executive Vice President James Sammons, M.D.

* * * *

Six hundred medical students rallied in Washington, D. C. to protest Reagan Administration cuts in the federal health budget.

Sen. Edward Kennedy (D.-Mass.), Rep. Henry Waxman (D.-Calif.), and Rep. Barbara Mikulski (D.-Md.) told the students that poor people would be severely affected by the proposed economies.

Other health students and workers held meetings in other cities and at medical schools for the national Day of Concern for Health.

Kathleen Jennison, M.D., President of the American Medical Student Association, said that medical students are building momentum now to alert communities and patients to the impact of the budget cuts. "We are very alarmed at what we feel will be a patient crisis," Dr. Jennison said.

* * * *

The National Fund for Medical Education has announced new priorities for its \$1 million funding program. They are: further advances in cost containment education, improving communications between patients and their physicians, improving the ability of medical schools to select students who will make good physicians, promoting interest in careers as physician-investigators and as teachers, and finding new ways to integrate into the medical curriculum subjects inadequately addressed in the past. The Fund is a public foundation supported entirely by the private sector.

* * * *

BUILDINGS RENAMED

Two former staff members of the University of Arkansas for Medical Sciences were recently honored by the renaming of facilities on the Medical Sciences Campus.

The Ambulatory Care Center was renamed the "Isaac Folsom Clinic" in honor of Dr. Isaac Folsom, Jr., who provided funds for the University's first ambulatory clinic.

The Education I building was renamed the "Winston K. Shorey Building" in honor of Dr. Shorey, who was Dean of the College of Medicine from 1961 to 1974 and founder of the Arkansas Caduceus Club. Before his death in 1976, Dr. Shorey began the Arkansas Family Practice Pro-

gram and the Area Health Education Center system.

* * * *

REPLANTATION COORDINATION CENTER

The Replantation Coordination Center in New Orleans has facilities and personnel for replantation of severed extremities. Through a 24-hour hotline (504-525-HAND) transportation of the patient, preparation of the appropriate operating room and assemblage of crew is coordinated. More than 50 replantations have been done by the team with a survival rate of greater than 90%.

Replantation should be considered for all severed parts—including hands, fingers, arms, legs, feet, scalps, penises, et cetera. Although not all parts are suitable for replantation because the part is too small or the crushing nature of the injury, any severed portion of the body should be saved and carefully preserved as these portions can be used for skin grafts or composite grafts if it is torn from a very vascular area such as the lip, eyelid or ear.

The Center's "hot line" has been coordinated to help dispatch the most suitable means of transportation for the patient to the hospital, as well as to direct the mobilization of the necessary equipment and personnel while the patient is in transport to the hospital. An ambulance or helicopter is used for patients within 180 miles of the Center. For patients who are farther than 180 miles from the Center, an air ambulance can be dispatched to transport the patient and the severed part. (Ideally both are transported in the same vehicle.) Rapid transport and optimal care of the injured patient and part are important.

The referring physician should be aware of basic protocol for replantation:

1. The patient should be examined for associated injuries.
2. The severed part should be wrapped in a clean cloth, placed in a plastic bag, and placed on *regular* ice. Keep cool, but don't freeze.
3. Hemorrhage should be controlled and normotension should be established.
4. The replant team should be notified of the type of injury, status of the patient, and the extent of associated injuries by a telephone call to (504) 525-HAND.

For further information, contact Elliott B. Black, III, M.D., Replantation Coordination Center, 1315 Foucher Street, New Orleans, Louisiana 70115.

SCIENTIFIC EXHIBITS FOR 1982 ANNUAL SESSION

The 1982 annual session of the Arkansas Medical Society will be held April 29 (Thursday) through May 2 (Sunday) at the Arlington Hotel in Hot Springs. Dr. Larry Lawson, chairman for the 1982 Scientific Exhibits, is requesting that any member interested in exhibiting at the 1982 meeting contact him at Post Office Box 1208, Fort Smith, Arkansas 72902.

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OPEN INVITATION TO PHYSICIAN ARTISTS TO JOIN AMERICAN PHYSICIANS ART ASSOCIATION (APAA)

Many physicians throughout history have been involved in creative hobbies, such as painting, sculpturing, photography, and crafts. However, in the United States it was not until 1936 that they had an organization in which they could exhibit these creative ventures. At that time the American Physicians Art Association was organized by the late Frances H. Redewill, Sr., M.D., a San Francisco urologist and a talented marine painter. He and some other physician artists had the first exhibition of APAA at the convention of the American Medical Association in San Francisco in 1936.

Much national publicity has been accorded the APAA. It has often been termed by critics as one of the finest non-professional arts shows in the country. Noted professional artists judge the show each year, awarding the much sought after prizes. The professional show director hangs the show and his word is final.

The majority of members of the APAA are active, artistic creators who exhibit their work in one or more of the following categories: Oils and Acrylics, Water Colors, Sculpture, Photography, Arts and Crafts, and/or Graphics and miscellaneous.

This year the APAA Annual Art Exhibition and annual meeting will be held during the 75th annual Southern Medical Association meeting in New Orleans, Louisiana, November 15-18. Membership in the Southern Medical Association, however, is not required.

Membership is open to all physicians. Those interested should write to:

Milton S. Good, M.D.
Treasure, APAA
610 Highlawn Ave.
Elizabethtown, PA 17022

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

FRONTIERS IN PSYCHIATRY

Course Director: Robert Matthews, M.D., September 11, 12, 13. *September 11, 6:30 p.m. to 9:00 p.m.* (Social); *September 12, 8:00 a.m. to 1:00 p.m.*; *September 13, 8:00 a.m. to 1:00 p.m.* Fairfield Bay. No other information available. Sponsored by UAMS.

PEDIATRIC CONFERENCE ON MANAGEMENT OF (PART I) CHILDREN WITH MINIMAL BRAIN DYSFUNCTION AND (PART II) CHILDREN OF DIVORCE

Presented by Richard A. Gardner, M.D., Clinical Associate Professor of Psychiatry, College of Physicians and Surgeons, Columbia University, New York, *September 18, 9:00 a.m. to 4:00 p.m.*, Education Wing, Room E-155, St. Vincent Infirmary, Little Rock. Six hours Category I credit. Registration fee \$50 (includes breakfast and lunch).

CORNEAL AND EXTERNAL OCULAR DISEASE

Presented by Perry S. Binder, M.D., and Thomas O. Wood, M.D., *September 18 and 19, 8:30 a.m. to 12:30 p.m. (both days)*, Red Apple Inn, Heber Springs, Arkansas. Seven hours Category I credit. Registration fee \$75. Sponsored by Arkansas Academy of Ophthalmology. For information contact James H. Landers, M.D., Secretary, Arkansas Academy of Ophthalmology, Suite 519, Doctors Building, Little Rock, Arkansas 72205.

RECENT DEVELOPMENTS IN REHABILITATION

Presented by John Bowker, M.D., *September 21, 6:00 p.m.*, Memorial Hospital, North Little Rock. One hour Category I credit. No fee.

OFFICE MANAGEMENT OF HYPERLIPIDEMIA AND EXPECTED RESULTS

Presented by Stewart L. Nunn, M.D., Professor

of Medicine, University of Tennessee College of Medicine, Memphis, *September 22, 7:00 p.m.*, Inservice Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No fee.

THE AGING MUSCULOSKELETAL SYSTEM

Presented by Charles Schock, M.D., *September 29 and 30, 7:30 a.m. to 4:30 p.m.*, Little Rock Hilton Inn. Eleven and one-half hours Category I credit. Registration fee \$130. Sponsored by UAMS.

TWO DAYS OF INTERNAL MEDICINE

Course Director: George Ackerman, M.D., *October 2 and 3, 8:00 a.m. to 5:00 p.m.*, Education I Building, UAMS. No other information available.

ETHICAL BASIS FOR MEDICAL DECISIONS

Course Director: Fred Henker, M.D., *October 10, 8:00 a.m. to 5:00 p.m.*, Education II Building, UAMS. No other information available.

ORTHOPAEDICS FOR FAMILY PHYSICIANS

Course Director: Ben Saltzman, M.D., *October 24, 8:00 a.m. to 5:00 p.m.*, Education II Building, UAMS. No other information available.

MS UPDATE

Presented by MS Society and Medical Education, *September 19, 8:00 a.m. to 12:45 p.m.*, Baptist Medical Center Auditorium. Four hours Category I credit. Sponsored by Baptist Medical Center. No registration fee.

RECENT DEVELOPMENTS IN PEDIATRIC ALLERGY

Presented by Kelsy Caplinger, M.D., *October 19, 6:30 p.m.*, Memorial Hospital, North Little Rock. One hour Category I credit. No registration fee.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, September 3, 17 and October 1, 15, 1:00 p.m., Conference Room.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

KEEPING UP

Pathology Conference, September 15 and October 20, 3:00 p.m., Conference Room.

Mortality Conference, September 10 and October 8, 3:00 p.m., Conference Room.

HOT SPRINGS — ST. JOSEPH'S REGIONAL HEALTH CENTER

Medicine Teaching Conference, first Tuesday, 12:00 noon.

Chest Conference, second and fourth Tuesday, 12:30 p.m., Red Room.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, September 9 and October 14, 6:00 p.m. to 12:00 midnight, Human Resources Development Area. Six Hours Category I credit.

GI Roundup, September 9, 23 and October 7, 23, 12:00 noon to 1:00 p.m., Conference Room #1.

Emergency Medicine Conference, September 2, 16, 30 and October 14, 28, 12:30 p.m. to 1:30 p.m., Conference Room #1.

Morbidity and Mortality Conference, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Surgery Conference, each Thursday except first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Anesthesiology Conference, September 17 and October 15, 7:00 a.m. to 8:00 a.m., Dining Room #3.

Case of the Month, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

Central Arkansas Primary Care Conference, second Tuesday, 7:00 p.m. to 9:00 p.m., BMC Auditorium.

Pulmonary Care Conference, each Tuesday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 p.m. to 1:15 p.m., Coffee Shop Dining Room #3.

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E155, Education Wing.

Pediatric Conference, first and third Monday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.

Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.

Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.

Cardiology Conference, second and fourth Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.

Cleft Palate Conference, Wednesday, September 16, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Internal Medicine Grand Rounds, each Tuesday, 8:00 a.m. to 9:00 a.m., Education I Auditorium.

Anesthesiology Complications Conference, each Tuesday, 7:00 a.m. to 8:00 a.m., Room 2E04, UAMS Hospital.

Neuroradiology Course, each Wednesday, 4:00 p.m. to 5:00 p.m., Radiology Conference Room.

Radiology Continuing Education Lecture Series, two Wednesdays each month, 6:00 p.m. to 7:30 p.m., Radiology Conference Room.

Residents Anesthesia Seminars, each Wednesday and Thursday, 3:30 p.m. to 4:30 p.m., Room 2E04, UAMS Hospital.

Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m. to 6:00 p.m., UAMS Eye Clinic.

Categorical Course in Radiology, each weekday except Wednesday, 4:15 p.m. to 5:00 p.m., Wednesday, 5:00 p.m. to 5:45 p.m., Radiology Conference Room.



PERSONAL AND NEWS ITEMS

NEW PHYSICIAN

Dr. Mike Wyly has begun practice at the Lincoln Community Clinic.

DR. KLEPPER SPEAKS

Dr. Charles Klepper of Harrison spoke to the Better Breathers Club recently. Dr. Klepper spoke on new drugs and exercises for emphysema patients and how attitudes in dealing with respiratory problems can alter the course of the disease.

AUXILIARY SPEAKER

Batesville physician, Dr. Paul Baxley, spoke on the effects and importance of high blood pressure during a meeting of the White River Medical Auxiliary.

DR. CAPLINGER RELOCATES

Dr. Kelsy Caplinger has announced the relocation of his office and the establishment of the Little Rock Allergy Clinic, P.A., at 11215 Hermitage Road in Little Rock.

PHYSICIAN LOCATES

Dr. Mark M. Hemeyer has joined the Department of Family Practice at Glenwood Medical Clinic in Texarkana.

DR. FISER SPEAKS

Dr. Robert Fiser of Little Rock spoke at a recent meeting of the Blytheville Rotary Club. Dr. Fiser discussed services provided by the Arkansas Children's Hospital.

HEALTH CARE SEMINAR

Fayetteville physicians Drs. Phillip Duncan, Jorge Johnson and William Mills, and a Little Rock physician, Dr. F. Richard Jordan, were members of the program faculty for a health care seminar sponsored by the Washington Regional Medical Center. The seminar addressed the assessment and management of head trauma, including respiratory support, diagnostic investigations and long-term nursing care.

DOCTOR ELECTED

Dr. J. Malcolm Moore, Jr., of Little Rock was recently elected to the Board of Directors of Savers Federal Savings and Loan Association.

DR. RANSOM

Dr. John B. Weiss has been joined by Dr. John M. Ransom for the practice of Cardiovascular and Thoracic Surgery at 780 Medical Towers Building.

DR. DWYER

Dr. Gregory A. Dwyer has joined The Little Rock Dermatology Clinic, P.A., at 500 South University.

AARP SPEAKER

Dr. Tom Jefferson of Ozark spoke at a recent meeting of The American Association of Retired Persons on dealing with emergencies.

DR. ROLLOW HONORED

An addition to the surgery department at Bates Memorial Hospital in Bentonville was dedicated to Dr. John Rollow of Bentonville. Dr. Rollow has practiced in Bentonville since 1948.

PARIS GAINS PHYSICIAN

Dr. J. R. Baskerville, formerly of Danville, has joined the Medical Arts Clinic in Paris.

DR. GARDNER APPOINTED

Dr. James Gardner of Hot Springs has been appointed coroner for Garland County to fill an unexpired term.

MANILA GAINS PHYSICIAN

Dr. Thomas Flannigan has begun practice in Manila.

CARDIOLOGY FELLOW

Little Rock physician, Dr. Stephen T. Ticaric, has been elected to the Fellowship of the American College of Cardiology.

SERTOMA SPEAKER

Dr. Ben Saltzman recently spoke to the Little Rock Sertoma Club on Arkansas rural health problems.

STAFF OFFICERS ELECTED

Officers for the Wilhelmina Medical Center were elected during the annual staff meeting. Elected were Dr. David Fried as president, Dr. Phil Hefner as vice president and Dr. Maurice Stephens as secretary — all of Mena.

Dr. A. J. Thompson of Little Rock headed a program entitled, "Medical Advances in Care of Heart Patients."

DR. KRADEL SPEAKS

Dr. Paul Kradel of Fort Smith participated in a program sponsored by Project HELP (Help Everyone Learn about Parenting). The two-day community training seminar was on "The Pregnant Adolescent."

ROTARY SPEAKER

Dr. Paul J. Baxley of Batesville spoke at a recent meeting of the Batesville Rotary Club. He discussed requirements for an effective and well-functioning medical facility.

DR. TIRMAN

Dr. Robert M. Tirman of Jacksonville has been selected for Fellowship in the American College of Radiology. Dr. Tirman will be inducted during the annual ACR meeting in Las Vegas in September.

NEW PHYSICIAN IN FORREST CITY

Dr. James T. Meredith, Jr., has joined Drs. George T. McPhail and E. Morgan Collins at the Forrest City Clinic for the practice of Family Medicine.

MALVERN GAINS PHYSICIAN

Dr. Bruce K. Burton has opened his office for the practice of Internal Medicine at 1002 Schneider Drive in Malvern.

DR. MERL CROW RETIRES

Dr. Merl Crow of Warren has retired from full-time practice. Dr. Crow practiced for a while in

Pine Bluff before joining his brother, Dr. Bruce Crow, in Warren and built the Crow Clinic-Hospital. Dr. Crow left to serve during World War II and returned to Warren in 1945. He remained in practice at Warren until his retirement.

ORTHOPAEDIC PHYSICIANS

Drs. Bruce L. Smith, Jr., and Edward H. Saer, III, have joined Drs. Jerry L. Thomas and Peter R. Dornenburg at Arkansas Orthopaedic Associates, P.A., for the practice of orthopaedic surgery.

ASSOCIATION ANNOUNCED

Dr. C. David Williams has announced the association of Dr. Thomas H. Hoffman with Arkansas Cardiovascular Surgery Associates, P.A., for the practice of thoracic and cardiovascular surgery.

CHINESE VISITOR

Dr. Woodbridge E. Morris of Little Rock was recently visited by Dr. Wesley K. C. May of Ningxia, China. Drs. Morris and May were classmates at Johns Hopkins University School of

Medicine during Dr. May's first trip to the United States.

CLARKSVILLE GAINS PHYSICIAN

Dr. Will Slatten, a native of Boyce, Louisiana, has joined the Clarksville Medical Group for General Practice of medicine.

SEARCY PHYSICIAN

Dr. Leon R. Blue, a native of Searcy, has joined the Searcy Medical Center.

TRAINING COMPLETED

Five physicians have completed their Family Practice residency training with AHEC in Fort Smith: Drs. Bruce White, Mike Justus, David Staggs, Garr Barron, and Dale Perrymore.

Drs. White and Justus will practice in Malvern. Dr. Staggs will specialize in Family Practice at Searcy. Drs. Perrymore and Barron will remain in Fort Smith; Dr. Perrymore will join St. Edward Mercy Medical Center for the practice of Emergency Medicine and Dr. Barron will join the AHEC faculty.



NEW MEMBERS

Craighead-Poinsett County Medical Society has added four new members to its roll:

DR. MICHAEL D. HIGHTOWER

Dr. Hightower, a native of St. Louis, Missouri, is a 1971 graduate of the University of Arkansas at Fayetteville.

In 1975, Dr. Hightower was graduated from the University of Arkansas College of Medicine. He served an internship, Internal Medicine residency, and a Gastroenterology Fellowship with University Hospital.

Dr. Hightower is an assistant clinical professor

with the Area Health Education Center in Jonesboro. He is board certified in Internal Medicine.

Dr. Hightower is associated with the Northeast Arkansas Internal Medicine Clinic at 311 East Matthews in Jonesboro. He specializes in Gastroenterology.

DR. STEPHEN PUTNAM LUNDE

Dr. Lundé was born in Worcester, Massachusetts. His pre-med education was with Auburn University in Alabama. Dr. Lundé is a 1974 graduate of the University of Alabama School of Medicine, Birmingham.

Dr. Lundé served his internship and residency with the City of Memphis Hospital from 1975 to 1978. From 1975 to 1981, he served with the United States Navy in Beaufort, South Carolina.

Dr. Lundé, an Obstetrician-Gynecologist, has his office at 505 East Matthews, Jonesboro.

DR. WARREN A. SKAUG

Dr. Skaug was born in Marquette, Michigan.

Dr. Skaug's pre-med education was with Santa Monica Junior College in California, University of Southern California, and the University of Arkansas. In 1977, he was graduated from the

University of Arkansas College of Medicine. His Pediatric internship and Pediatric residency were with the University and Arkansas Children's Hospital from 1977 to 1980.

Dr. Skaug has been practicing with The Children's Clinic at 505 East Matthews in Jonesboro for one year. His specialty is Pediatrics.

DR. JOSEPH C. STANTON

A native of Hope, Dr. Stainton is a 1971 graduate of the University of Arkansas at Fayetteville.

Dr. Stainton was graduated from the University of Arkansas College of Medicine in 1976. His internship and residency were with Louisiana State University Hospital in Shreveport. Dr. Stainton is board eligible in Ophthalmology. He is a member of the American Intraocularlens Society. Dr. Stainton is a clinical instructor with the Area Health Education Center.

Dr. Stainton practices Ophthalmology at 1917 East Matthews in Jonesboro.

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DR. FRED ROBERTSON

Dr. Robertson is a new member of the Garland County Medical Society. He was born in Searcy.

Dr. Robertson attended the University of Central Arkansas and received his medical degree from the University of Arkansas College of Medicine in 1969. He served a rotating internship at Denver General Hospital in Denver, Colorado. Dr. Robertson served with the United States Air Force as flight surgeon at Laughlin Air Force Base in Del Rio, Texas. In 1972, Dr. Robertson returned to Little Rock and served his Internal Medicine residency with University Hospital.

Dr. Robertson was in private practice in Little Rock from 1975 to 1978 and served as clinical instructor of Internal Medicine with the College of Medicine. He is board certified in Internal Medicine and specializes in Rheumatology. He is a member of the American Rheumatism Association.

Dr. Robertson is Medical Director of the Leo N. Levi National Arthritis Hospital, 300 Prospect Avenue, in Hot Springs.

DR. TERRELL P. BISHOP, JR.

Dr. Bishop has been added to the membership roll of the Jefferson County Medical Society. He was born in Russellville.

Dr. Bishop received a B.A. in biology in 1974 from Arkansas Polytechnic College at Russellville. In May of 1978, he received his medical

degree from the University of Arkansas College of Medicine and in October 1978 completed a Psychiatric Internship there. Dr. Bishop was in a combined residency program at Duke University and John Umstead Hospital in Durham, North Carolina, and completed his residency training at the Mental Health Center in Pine Bluff.

Dr. Bishop is practicing General Psychiatry with the Southeast Arkansas Mental Health Center at 2500 Rike Drive in Pine Bluff.

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The Phillips County Medical Society has two new members:

DR. FRANCIS M. PATTON

Dr. Patton was born in Fairfield, Alabama.

After receiving a B.S. from the University of Alabama in 1954, Dr. Patton attended the University of Alabama School of Medicine and received his degree in 1960. His internship was with Lloyd Noland Hospital in Fairfield, Alabama. After a residency with the Veterans Administration Medical Center and University of Alabama Hospitals in Birmingham, Dr. Patton served with the United States Army Chemical Corps from 1952 to 1954.

Dr. Patton practiced in Birmingham from 1965 to 1970, New Orleans from 1971 to 1979 and in Atlanta from 1979 to 1980. Dr. Patton was an assistant professor at the University of Alabama in Birmingham and clinical associate professor with Tulane University in New Orleans. He is board certified in Pathology.

Dr. Patton now specializes in Pathology and has his office at Helena Hospital.

DR. LANCE D. WHALEY

Dr. Whaley, a native of Montgomery, Alabama, is a 1967 graduate of the University of Alabama. He received his medical degree from the University of Alabama School of Medicine, Birmingham, in 1971. After an internship with St. Vincent's Hospital in Birmingham, Dr. Whaley served a residency with the University of Tennessee Affiliated Hospitals in Memphis.

From 1975 to 1977, Dr. Whaley served with the United State Air Force. He practiced in Cleveland, Mississippi, from 1977 to 1980.

Dr. Whaley is board certified in Obstetrics and Gynecology. He now practices with Women's Clinic of Phillips County at 671 Oakland Avenue in Helena.

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The Pulaski County Medical Society has added eight new members to its roll:

DR. JOSEPH K. BUCHMAN

Dr. Buchman was born in Cincinnati, Ohio. He was graduated from Hall High School in Little Rock in 1964.

In 1964, Dr. Buchman was granted a B.S. from Emory University in Atlanta, Georgia. He was graduated from the University of Arkansas College of Medicine in 1974. At Cincinnati General Hospital in Ohio, he served his internship and his General Surgery residency. He is a candidate of the American College of Surgeons.

Dr. Buchman's specialty is General Surgery; his office is located at 500 South University in Little Rock.

DR. GREGORY A. DWYER

Dr. Dwyer is a native of New Orleans.

Dr. Dwyer was graduated from the University of New Orleans in 1972 with a B.S. in general sciences. In 1976, he was granted his M.D. from Tulane University School of Medicine in New Orleans. After an internship with Alton Ochner Medical Foundation in New Orleans, Dr. Dwyer did his Dermatology residency with the University of Arkansas College of Medicine from 1978 to 1981.

Dr. Dwyer has joined the Little Rock Dermatology Clinic at 500 South University.

DR. TONY A. FLIPPIN

Dr. Flippin was born in Fort Smith and was graduated from Van Buren High School.

Dr. Flippin's pre-med education was with Arkansas Tech and the University of Arkansas. Dr. Flippin served his internship with University Hospital. He began his specialty training with an Internal Medicine residency in 1976 at University Hospital, continued his training in an Oncology residency with Tufts University and the New England Medical Center in Boston and with M. D. Anderson Hospital and Tumor Institute in Houston, Texas. He is certified in Internal Medicine.

From 1980 to 1981, Dr. Flippin practiced in Fayetteville.

Dr. Flippin specializes in Oncology; his office is at 500 South University in Little Rock.

DR. CHARLES R. HENRY, JR.

Dr. Henry, a native of Little Rock, is a graduate of Westminster College in Fulton, Missouri.

In 1977, he was graduated from the University of Arkansas College of Medicine.

Dr. Henry's internship and Obstetrics and Gynecology residency were with the University Hospital. He is a junior fellow of the American College of Obstetrics and Gynecology.

Dr. Henry's office for the practice of Obstetrics and Gynecology is at 500 South University in Little Rock.

DR. RONALD D. HUGHES

Dr. Hughes was born in Conway and was graduated from the North Little Rock High School.

Dr. Hughes attended the University of Arkansas at Fayetteville. In 1975, he was graduated from the University of Arkansas College of Medicine. His internship was with University Hospital. At the same institution, he served an Internal Medicine residency from 1975 to 1978 and a Nephrology residency from 1978 to 1980.

Dr. Hughes is an assistant professor with the University of Arkansas College of Medicine. He is board certified in Internal Medicine.

Dr. Hughes' specialty is Nephrology and Internal Medicine. His office is located at 500 South University in Little Rock.

DR. LARRY D. STONESIFER

Dr. Stonesifer was born in Fayetteville. He was graduated from Central High School in Little Rock.

In 1972, Dr. Stonesifer received an A.B. from Washington University in St. Louis. He was granted his M.D. by the University of Arkansas College of Medicine in 1976. Dr. Stonesifer served his internship and Internal Medicine residency with University Hospital and the Veterans Administration Hospital. From 1979 to 1981, he had a Fellowship in Endocrinology-Metabolism at the same institutions. He is certified by the American Board of Internal Medicine.

Dr. Stonesifer was an instructor with the Department of Medicine at the University from 1980 to 1981.

Dr. Stonesifer is now in private practice at 8500 West Markham in Little Rock. His specialty is Endocrinology-Metabolism.

DR. JAMES A. TANNER

Dr. Tanner is a native of Little Rock.

Dr. Tanner attended Vanderbilt University in Nashville, Tennessee. He was graduated from the University of Arkansas College of Medicine.

NEW MEMBERS

After an internship with University Hospital, Dr. Tanner served his Obstetrics-Gynecology residency there from 1978 to 1981.

Dr. Tanner's office is located in Suite 310 of the Doctors Park Building in Little Rock. He specializes in Obstetrics and Gynecology.

DR. ROBERT P. YOUNG

Dr. Young, a native of Memphis, Tennessee, is a 1972 graduate of the University of Mississippi at Oxford, Mississippi.

Dr. Young was graduated from the University of Arkansas College of Medicine in 1977. He served his internship and Obstetrics-Gynecology residency at University Hospital.

Dr. Young specializes in Obstetrics and Gynecology. His office is located at 500 South University in Little Rock.

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DR. JOHN M. McCORMICK

Dr. McCormick is a new member of the Tri-County Medical Society.

Dr. McCormick was born in Carthage, Missouri. He is a 1972 graduate of the University

of Arkansas at Fayetteville and a 1979 graduate of the University of Arkansas College of Medicine. His internship was with St. Vincent Infirmary in Little Rock.

Dr. McCormick is a General Practitioner; his office is with Mammoth Spring Clinic in Mammoth Spring.

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INTERN AND RESIDENT MEMBERS

The Pulaski County Medical Society has two new resident members:

DR. GEORGE AYDELOTTE

Dr. Aydelotte, a native of Eldorado, Illinois, is in a Diagnostic Radiology residency at the University of Arkansas College of Medicine. He is a 1978 graduate of the University of Illinois College of Medicine.

DR. JOHN A. MALLORY

Dr. Mallory was born in Little Rock. He was graduated from the University of Arkansas College of Medicine in 1980 and is now doing an Anesthesiology residency.



THINGS



TO COME

September 17-18

Medical Staff Leadership Conference. The Southern Medical Association. Nashville, Tennessee. Eleven hours Category 1 AMA. Eleven elective hours AAFP. For further information, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; phone (205) 323-4400.

October 1-2

Medical Staff Leadership Conference. The Southern Medical Association. Lake Ozark, Missouri. Eleven hours Category 1 AMA. Eleven elective hours AAFP. For further information, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; phone (205) 323-4400.

December 8-10

National Conference—Gastrointestinal Cancer—1981. American Cancer Society. Fountainebleau Hilton Hotel, Miami Beach, Florida. Thirteen hours Category 1, AMA. Thirteen prescribed hours AAFP. For further information, contact Dr. Nicholas G. Bottiglieri, American Cancer Society, National Conference—Gastrointestinal Cancer—1981, 777 Third Avenue, New York, New York, 10017.

December 10-12

Current Concepts in Cancer Therapy. Section of Surgical Oncology, Department of Surgery, Washington University, St. Louis, and Missouri Chapter of the American Cancer Society. Nineteen hours, AMA, AAFP, AOA. Stouffer's Riverfront Towers Hotel. Registration fees: physician \$275; physician in training \$95.

For further information, contact Office of Continuing Medical Education, Washington University School of Medicine, Box 8063, 660 South Euclid, St. Louis, Missouri 63110; phone (314) 454-3853.

January 13-16, 1982

Clinical Course on Critical Pulmonary Care. Fairmont Hotel, New Orleans. American Lung Association of Louisiana and American Thoracic Society of Louisiana. \$225 for physicians; \$195 for fellows, residents and interns. Category I AMA.

For further information, contact Course Coordinator, American Lung Association of Louisiana, 333 St. Charles Avenue, Suite 500, New Orleans, Louisiana 70130.

March 22-April 2, 1982

Twenty-third Postgraduate Institute for Pathologists in Clinical Cytopathology. The Johns Hopkins University School of Medicine and The Johns Hopkins Hospital, Baltimore, Maryland. 125 credit hours AMA Category I. For further information, contact John K. Frost, M.D., 610 Pathology Building, The Johns Hopkins Hospital, Baltimore, Maryland 21205.



OBITUARY

DR. THOMAS HAROLD JONES

Dr. Jones died June 19, 1981. He was born May 10, 1898, in Plummerville.

Dr. Jones received his pre-med education at Henderson State University and was graduated from the University of Louisville School of Medicine, Kentucky, in 1921. He practiced medicine in Columbia County for fifty-six years, twelve in Magnolia and forty-four in Waldo. Dr. Jones retired in 1980. He was a veteran of World Wars I and II.

Dr. Jones is survived by his wife, Mrs. Ethel Jean Jones, and three daughters.





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Ethical Basis for Medical Decisions

Critical Medical Decisions

Joseph V. Fisher, M.D.*

The physician today in his clinical problem solving is confronted by an increasing number of decisions which are indeed critical. The technological advances in the detection and management of disease, including an ever expanding and sometimes bewildering pharmacopoea, contribute a critical dimension to many of the decisions we are called upon to make. The crucial factor in our decisions is often at the heart an ethical problem.

The doctor's dilemma, individually and collectively as members of an honorable profession, is to attempt to formulate some ethical guidelines which will have congruity and harmony between our professional heritage and our personal values on the one hand and the scientific advances of medicine and the expectations and demands of society on the other.

It hardly seems necessary to enumerate some of the more onerous decisions that we are called upon to make. Abortion on demand, extending life with the aid of support machines or terminating it without the use of such mechanisms, patients' rights, informed consent, research on human subjects, etc. These are some of the more dramatic and well publicized issues about which many vocal and well organized groups are making their opinions known. Such issues obviously impact on the individual patient-physician relationship.

It would be helpful to examine by means of a conceptual schema the several persons, groups of people and societal agencies which at one time or another may affect critical medical decisions.

In the recent past, more and more critical medical decisions are being affected by those agencies and forces in society at the Tertiary Level. What was once decision making involving the patient and the physician and often those "significant others" must now include those influences of

societal agencies depicted at the tertiary level. I am not weighing the merits of this involvement but merely acknowledging that these forces do exist.

To return once again to the core problem: how do we physicians, individually and collectively, develop an ethical code which incorporates a harmonious balance between the historical perspective of our healing profession and our personal values system with the rapid expansions of the science of medicine and the societal agencies which are exerting their influence. This diagram represents the doctors' dilemma.

Diagram No. 1

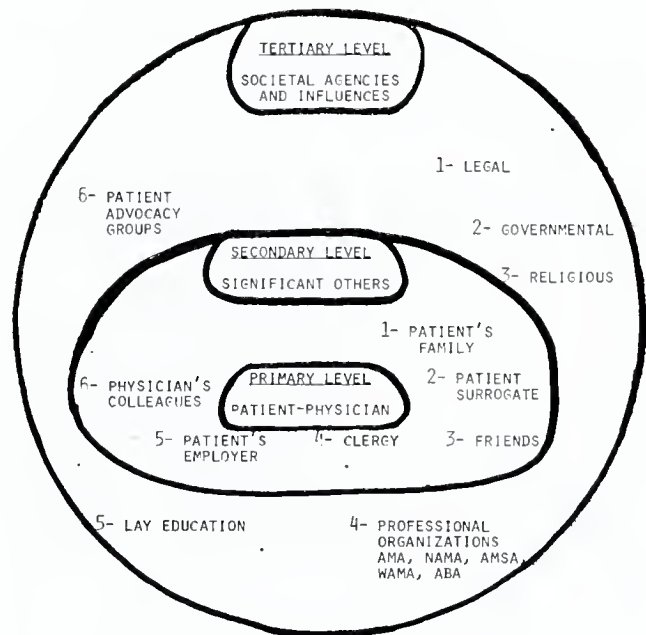
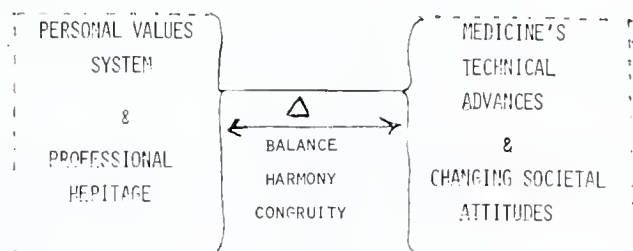


Diagram No. 2



THE DOCTOR'S DILEMMA

*Professor Emeritus, Department of Family Medicine, Medical University of South Carolina, Charleston, South Carolina.

Presented at University of Arkansas for Medical Sciences, Little Rock, December 6, 1980.

Medicine, the healing profession, has an honorable past and has its share of heroes and courageous pioneers. We would do well to be knowledgeable about our heritage lest we forget and fail to recall what these giants said and did in their own time.

The teachings and aphorisms of Hippocrates put a high value on medicine as a craft. However, attitudes toward the patient were paternalistic and authoritarian. Informing the patient about the diagnosis, treatment and prognosis of his illness was considered neither prudent nor necessary. The Hippocratic Oath contains numerous proscriptions, which if followed by the physician, would make him a moral agent (e.g. against performing abortions, confidentiality and (premium non nocere) and not to harm the patient).

The Judeo-Christian accent on compassion, mercy, truth and justice has had a considerable influence on the medical profession and this concern remains with us yet today.

Those of you who are Christians will have no difficulty in recalling the numerous instances in the life of Jesus where the Bible says, "Jesus had compassion"—on the lepers, the epileptic, the multitude, the man possessed with demons, etc., and the compassion was followed immediately by his healing touch.

References in the Book of Isaiah to the "suffering servant" have been incorporated into the lives of some of the heroes of medicine in their willingness to make sacrifices for their patients.

An excerpt from the prayer of Moses Maimonides, the great Hebrew physician, of the 12th century, is worthy of remembrance. "Endue me with the strength of mind and heart so that both be always ready to serve the rich and the poor, the good and the wicked, friend and foe and that I may never see in the patient anything else but a fellow creature in pain."

William Harvey and Sigmund Freud come to mind as men who did pioneer work in their time and had the courage to announce and defend their labors in the face of hostile and irrational criticism.

Pelligrino traces the development of the AMA's professional code of ethics from its introduction in 1848 to its latest suggested revisions in 1978. He calls attention to the fact that over a period of 130 years that moral statements about professional conduct are being relegated to a position

of secondary importance to that of an emphasis on scientific competence.

All of us bring a personal system of values which affect our relationship with our patients and these should complement the knowledge of our professional legacy. The evolution and the formulation of a personal ethical code is an imperative. If need be we should be able to articulate our values but we have no right to impose our values on our patients. Perhaps our best advocacy for our ethical code is demonstrated by our day-to-day interactions with our patients.

The foregoing represents prologue to proposing some guidelines for us physicians as we forge a personal code of ethics which may assist us as we wrestle with critical medical decisions. These principles will be delineated as expectations, obligations and responsibilities of the physician.

Our patients and society have the expectation that we will act as competent physicians. Competence has a technical component which adds new burdens on us to keep current in our knowledge. A quote from Moses Maimonides' prayer is timely. "Never allow the thought to arise in me that I have attained sufficient knowledge but vouchsafe to give me the strength and ambition to extend my knowledge. The art is great but the mind of man is ever expanding."

The "inner directed" physician has always been motivated to engage in a life-long learning endeavor long before accredited continuing education became mandatory.

The other dimension of competence relates to the physical, emotional and spiritual well being of the physician. A physician impaired by dependency on alcohol or other drugs, emotional or incapacitating physical illness is not competent and may represent a serious hazard to his patients.

Beyond these more obvious deviations from the practice of quality medicine are our own actions which all of us need to periodically survey. The surveillance of our own use of drugs, alcohol, tobacco, caffeine, prescription medications; the observance of common sense, hygiene measures, of proper diet, adequate rest, regular exercise, etc., all can contribute to a sense of competence and well being.

Compassion is a quality which our patients, their families, and the public expect from the physician. The physician along with the clergy-

man is expected to be a cut above the other professions in demonstrating compassionate behavior. People in pain—physical, emotional and spiritual—want a physician who is both empathic (to feel *with*) and sympathetic (to feel *for*). Compassion also includes the quality of mercy and the ability to forgive. (Example—the alcoholic patient).

Closely allied to the quality of compassion is that of respect for the dignity of the person of the patient. Perhaps it could be included under the rubric of compassion. One of the most beautiful expressions of man's importance in God's creation and scheme of things is found in the VIII Psalm. The King James version reads thusly, "O Lord, our Lord, how excellent is thy name in all the earth! Who hast set thy glory above the heavens. (verse 1)

"When I consider thy heavens, the work of thy fingers, the moon and the stars which thou hast ordained; (verse 3)

"What is man that thou art mindful of him, and the son of man, that thou visitest him? (verse 4)

"For thou hast made him a little lower than the angels and hast crowned him with glory and honor." (verse 5)

It may tax our forbearance and credulity to act and believe that some of our difficult patients are truly a "little lower than the angels". But due consideration of the person of the patient, his innate dignity and uniqueness and his right to exercise his autonomy in decisions which affect his health are some of the qualities which help us to demonstrate a respectful attitude toward our patients. If we employ these attitudes and genuinely seek to understand the behavior of our patients we may become more tolerant and compassionate and fulfill our expected traditional role.

An attribute sometimes seemingly forgotten in these days of monumental scientific achievements in medicine is that of humility. The ancient philosophers and the Old and New Testaments offer many admonishments against the sin of pride and the advantage of humility. *EXAMPLE* (Ecclesiasticus 33.4) "Lord, Father and God of my life, do not let me have a supercilious eye." We should from time to time reflect and stand in awe of the Creator's handiwork in the intricacies

and still mysterious functions of the human mind and body. If we are honest in the assessment of our medical knowledge we should be grateful for what we have learned but remain humble when we consider how much remains to be known.

To be honest enough, when appropriate, to say to our patients, "I don't know" or "I could be wrong" is evidence that we don't consider ourselves omniscient and is a mark of maturity. I have found that our Family Medicine residents are reluctant to admit to their patients that they may not know; but often such an honest admission may improve, rather than undermine, the patient-physician relationship.

The physician is expected to tell the truth as he reveals his diagnosis, outlines his program of treatment, and offers a prognosis. The timing of conveying the truth, the sensitivity, and empathy with which the truth is revealed, and the amount or increment of truth shared with the patient at any one time involves the art of medicine and separates the true physician from the doctor who is a technician.

Another attribute which is part of our obligations as physicians is that of fidelity. Fidelity implies that the physician be loyal to the good and the lasting in our heritage. Integrity, probity, constancy, purity, dependability are all qualities subsumed under fidelity.

Our covenanted relationship to our patients is to an increasing degree being spelled out by third parties. The ethical physician is not too perturbed by this encroachment because his ethical conduct will always supersede the legal definitions of fidelity.

I am aware that the foregoing delineation of personal characteristics which should be integrated and incorporated in a code of ethics may appear somewhat superficial and even platitudinous. However, physicians today more than ever need to formulate a moral code which honestly reflects their personal beliefs. Such a code of ethics should provide each of us with a solid foundation but with the flexibility to meet present day obligations without sacrificing our nuclear integrity or abandoning our honorable heritage. Each of us must "work out our salvation with fear and trembling" in this respect. This effort requires time, study, and reflection and is an ethical imperative.



Lyme Arthritis

Report of a Case in Arkansas

W. Robert Thurlby, M.D.*

Lyme Arthritis has been described as a monoarticular or oligoarticular form of inflammatory arthritis occurring in both children and adults following tick bite. It was first recognized during outbreaks of epidemic proportion in eastern Connecticut during the years 1972 through 1976.¹ The name comes from the community of Lyme, which along with Old Lyme and East Haddam made up the area studied.

Clustering of the cases and peak incidence in late spring and early summer suggested the transmission of an infective agent by arthropod vector. Further analysis of the cases revealed that many of the individuals had been bitten by ticks.

The clinical presentation of tick bite, development of the characteristic skin lesion of erythema chronicum migrans associated in many cases with neurologic abnormality and arthritis have provided the guidelines for the diagnosis of Lyme arthritis.

Skin manifestations include the development of a central papular lesion which, over the course of days to weeks, in most instances, widened into an oval lesion with central clearing producing the classical lesion of erythema chronicum migrans. This lesion was later to become the hallmark of clinical diagnosis in these subjects. To date, no infective agent has been identified.

The neurological abnormalities range from headache and meningismus to paresthias. The arthritis is usually oligoarticular or monoarticular arthritis and usually affects the larger joints.

No single laboratory test has been diagnostic, though in many cases, cryoglobulinemia initially with IgM and, in the later stages, with both IgM and IgG has been found. Early in the disease elevated sedimentation rate has also been noted. Rheumatoid factor has been conspicuously absent. Viral and Rickettsial agglutinations have also failed to give any insight as to the etiology of the disorder.

CASE REPORT

On June 10, 1980, a 16-year-old white male presented himself for evaluation of joint pain. Five weeks prior to his presentation he had the acute onset of pain in the left elbow with heat,

erythema and tenderness. Almost simultaneously he experienced stiffness of his neck and pain in the left knee. The pain was not excruciating but it did necessitate his withdrawal from the spring track season. He was seen by his family doctor who made a diagnosis of juvenile rheumatoid arthritis and started the patient on Medrol, 16 mg., one tablet twice daily. During the period of time that he was taking the medication, the patient developed a papular lesion which subsequently evolved into an oval erythematous lesion on the left arm just distal to the elbow. By the time of our initial evaluation three contiguous oval lesions about the elbow and forearm had developed. The patient denied fever, chills or sweats. He did admit to a mild cough productive of white to yellow sputum. He denied any bowel or genitourinary symptoms. He denied any sexual contact prior to or since the development of his illness.

Physical examination revealed a slender, well developed white male. His weight was 152 pounds. Blood pressure was 110/80, pulse 80 per minute and regular, temperature was 36° C orally. The examination further revealed the pupils to be round and equal. Funduscopic examination was normal. The oropharynx was clear. The external auditory canals were clear and the tympanic membranes were normal in appearance. There were no carotid bruits nor was there any jugular venous distention. Examination of the lungs revealed them to be clear to auscultation and percussion and tactile fremitus was found to be equal bilaterally. Cardiac examination revealed a regular rhythm with a normal S1 and S2. Lymphatic examination was completely benign with the exception of a $1 \times 1\frac{1}{2}$ cm. node in the left axilla. The abdomen showed no evidence of organomegaly or tenderness to palpation. Rectal examination was omitted. Examination of the extremities at the time of the initial evaluation revealed no heat, swelling or erythema. There was full range of motion of all joints. There was no evidence of any tenderness or synovial thickening. Examination of the skin was normal with the exception of three adjacent oval erythematous lesions about the left elbow which were characteristic of erythema chronicum migrans.

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Oval erythematous skin lesion, distal to the elbow, of erythema chronicum migrans.

Chest x-ray revealed the bony thorax to be normal in appearance. The lung fields were well expanded and free of infiltrates. The hemidiaphragms showed normal contours and the costophrenic angles were sharp both on the PA and lateral views. The cardiac silhouette was normal in appearance with a cardiothoracic ratio of 11.5/30.2. Urinalysis revealed 1+ glycosuria but was otherwise normal. Complete blood count revealed a hemoglobin of 15.6, hematocrit 48, red blood cells 6.19 million, white blood cells 7,100 with a sedimentation rate of 5 mm/hr. Febrile agglutinins were all negative with the exception of Proteus OX-19 which was positive 1:20. This minor elevation was not felt to be significant. Further laboratory tests included an antinuclear antibody determination by Southwest Medical Laboratories in Dallas, Texas, which was negative. Antistreptolysin-O Titer was less than 166, RA Latex Titer and LE Cell Prep were negative. Electrocardiogram was normal.

Skin biopsy showed an orderly stratified squamous epithelium. The dermal connective tissue showed endothelial lined capillary spaces surrounded by very compact, dense, chronic inflammatory cell infiltrate having a "coat sleeve"

arrangement. The inflammatory cells were mainly lymphocytes and monocytes with a few scattered histiocytes. In the epidermis, mild focal edema was present. A few lymphocytes were noted at the dermal-epidermal junction. Mild papillary dermal edema was noted. The findings were compatible with erythema chronicum migrans.

The patient was feeling well at that time and had only the skin manifestations, therefore, no medication was prescribed.

On June 12, 1980, the patient was seen in followup. He did complain of very mild arthralgia in the left elbow but, again, no heat, tenderness or decreased range of motion was appreciated. He was started on Ascriptin, two tablets three times daily. There was no restriction of his activity.

He was seen again on June 24, 1980. Weight was 152 $\frac{3}{4}$ pounds, temperature was 36.5° C, pulse 80 per minute and regular and blood pressure 100/50. ENT examination was normal. The lungs were again found to be completely clear. Cardiac examination was normal with a normal S1 and S2. There was no murmur, rub or gallop. The skin lesions over the left elbow and forearm had blanched to the point that they revealed only slight erythema. There were no joint symptoms whatsoever. The patient was continued on Ascriptin at the prescribed dosage and asked to return for followup in one month.

Serum protein electrophoresis was obtained through Southwest Medical Laboratories. It was completely within normal limits with the exception of a slightly low Alpha-1 globulin level of 0.18 gm/dl, with a normal range of 0.2 to 0.4 gm/dl. Serum cryoglobulin was negative.

The patient has experienced a complete recovery to date and remains asymptomatic. Although he did not have the usual laboratory findings of cryoglobulinemia and elevated sedimentation rate, I feel this is explained by his late presentation to us and his previous treatment over an eight to ten day period with 32 mg. of Medrol per day. The patient exhibited the characteristic findings of oligoarticular arthritis, meningismus, headache and the characteristic skin lesions of erythema chronicum migrans. He furthermore gave a positive history of having received multiple tick bites including at least one over the area of the left forearm near the elbow.

The ability to establish a diagnosis of Lyme arthritis in a patient enables one to distinguish

it from other types of seronegative arthritis. Numerous case reports have been presented elsewhere describing more severe forms and prolonged durations of the illness.^{1,2,3} It is my opinion that the patient presented here had a very mild course possibly due to treatment with significant doses of steroids. However, the most appropriate treatment for this illness has not yet been established. It has been reported that antibiotics including tetracycline and penicillin have resulted in prompt disappearance of the skin lesions.^{1,3,4,5} Erythromycin had no significant effect. Other reports indicate that antibiotic treatment has resulted in a disappearance of the neurologic abnormalities.² It has been reported that corticosteroids have improved symptomatology where neurologic, cardiac and constitutional symptoms have been present.⁶ Corticosteroids alone, however, have not been completely effective in preventing recurrent attacks of arthritis.¹ Salicylates alone in some cases have been found effective in relieving the arthritis symptoms,¹ but as with steroids, not universally effective. The apparent wide variation in the natural course of the disease makes it quite difficult to assess the effect of treatment.

To my knowledge this is the first case report of Lyme arthritis in Arkansas. The endemic area

is said to include the Northeast Coast, Wisconsin, California and Oregon. In the principal report by Andiman, et., al,¹ his group reported the illness in Massachusetts, Rhode Island and Long Island, New York, as well as Connecticut. In addition to the broad range of arthropod diseases native to our state, the practicing clinician in Arkansas should now be alerted to the presence of the relatively new entity, Lyme arthritis.

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ACKNOWLEDGMENT

I wish to thank Chas. F. Wilkins, Jr., M.D., and Mildred Smith for their assistance in this case documentation.



A Physician Looks at Nursing Homes*

Ben N. Saltzman, M.D.**

Several years ago, I had the pleasure of addressing the Arkansas Nursing Home Association's annual meeting and felt at the time that we were thinking along the same lines. I am pleased that you have asked me back. I had been in an active medical practice up in Baxter County and found that most of my patients were in the older age group and retired or part of a retired duo. I enjoyed knowing these people and many became good friends. I watched their progress over the years and was interested in what happened to them as they grew older. As infirmities developed, many went home to live with children or relatives, particularly if they were widowed. Others managed very well in their own homes with occasional help from friends and neighbors or with a short visit from family in times of stress. Still others moved to retirement villages where, financial status permitting, they were able to live fairly normal lives. However, there was a small group of people who became enfeebled, who could not care for themselves, whose families had neither the time, the patience, or the know-how to do a proper job, who eventually ended up in nursing homes. It is this group of people that I want to talk about. Actually, they make up the greater part of the nursing home population. For purposes of discussion we will call them the "frail elderly". I'll explain why later.

For sometime now we have known that there are more beds in nursing homes than there are in acute care hospitals. However, speaking to my colleagues who have interests in nursing homes, I learn that there are not nearly enough beds for the present demand. Part of the trouble is that physicians have not concerned themselves with the problem and have not sought viable solutions to the problems affecting nursing home patients. In general, they have given the responsibility for their patient's care to someone else. One reason for this is that there has been a serious lack of emphasis on Geriatrics and Long Term Care in the training they received in medical schools. Only one-seventh of the medical schools in the United States have a Geriatrics specialty. Less

than one-half have any contact with institutionalized elderly.

Academic leadership in Arkansas has for sometime recognized the lack of attention to the frail elderly. In recent months the College of Medicine of the University of Arkansas for Medical Sciences has undertaken an all-out effort to develop a "Center of Excellence" to serve the training program development and research needs of the Long Term Care System in Arkansas. For this purpose Dr. Walter Clancy was employed to develop a proposal for a Long Term Care Gerontology Center which would serve as a resource for the organization and development of a continuum of health and social services for the elderly and others.

The College of Medicine is not interested in the delivery of services except in its own organization. Since it is a School of Medicine it seeks primarily to serve the training, design and research needs of a long term care system. Its chief interest is cooperation, not coordination. The program seeks to involve the Gerontology Program and the Graduate School of Social Work at UALR, the Multidisciplinary Training Program in Gerontology at UAPB, the Geriatric Research Education and Clinical Center and the Home-Based Care Program at the Little Rock VA Hospital and the State Office on Aging. On the UAMS campus the College of Medicine will involve the College of Nursing, the College of Pharmacy, and the College of Health Related Professions.

The term "frail elderly" derives from a new problem in our society. Our older population has swelled considerably in recent years. The number of those over 75 has grown tremendously and will continue to grow. As our family size becomes smaller, the elderly proportion increases. We have more and more dependents and less and less producers. Arkansas is known to be second only to Florida in its proportion of older people. We have had a large increase of retirees moving into the state. Our in-migration is about double the national average. Since people are living longer, the older and elderly population will continue to rise. It has been projected that by the year 2000 the over-75 population will be 45% of the over-65 population.

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It has been shown that approximately one-half of the elderly are somewhat disabled because of chronic illness. These are the people who concern us. They need a system of health and psychosocial services that make living worthwhile, not just possible. The planning project for us in the College of Medicine has been approved. Now it is up to us to develop a program that would serve the entire state of Arkansas. We need to train professionals and others serving the frail elderly such as physicians, nurses, mental health personnel, social service professionals, administrators, health technician specialists and support personnel. Former Chancellor James Dennis and I have been appointed Senior Medical Associates or Advisors. We will be seeking input from people such as yourselves who have fought the battles over the years and can tell us how we can help.

Looking back on my personal experiences and talking to my colleagues has given me some insight into what the physician can do to improve the lot of the nursing home patients. We need to inform ourselves a little better concerning our patients. A little personal interest would tell us that we are overtranquilizing our charges when we should be prescribing rehabilitation measures such as sensory training, physical therapy, speech therapy, urging greater ambulation, reality orientation and more personal attention.

As physicians we should look for alternatives to institutionalization. We should consider the possibilities of home care, the use of day care centers, the avoidance of more expensive procedures, the simplification of procedures to avoid confusion and generally paying more attention to our patients.

We have learned that drug reactions may cause many adverse effects. Reduced metabolic activity will cause slower elimination. Patients may be taking too many different drugs at the same time, bringing on interactions. Errors in administration of drugs, such as receiving the wrong medication, the wrong dose, the wrong route, the wrong time and the missed dose are not uncommon. Statistics show that there is a 20-30% error in drug administration in United States Nursing Homes. Thirty thousand drug related deaths are found in nursing homes annually.

Physicians should be alert for deficiencies in patient care. Ninety percent of actual care is performed by poorly trained aides and orderlies. No one is specifically to blame. The better personnel

after being trained move on to better paying jobs in acute care hospitals. However, we as physicians do have a responsibility to our patients and we should raise our voices for better training and higher pay for nursing home employees. Of course, in Arkansas over 70% of the nursing home population is supported by Medicaid compared with 40% of the nation as a whole. This argues for better Medicaid funding.

Abroad many interesting things are happening. Community hospitals in Amsterdam have Geriatric Departments that assess the chronically ill patient, treat the patient, then send him or her to a nursing home for convalescent care. The nursing home provides rehabilitation and occupational therapy and in some cases provides perpetual care for those that can no longer function in the community. The Hospital Geriatric Department sends a doctor or nurse either on home visits or to the Nursing Homes for follow-up treatment and evaluation. The Geriatric Department is divided into a Somato-Geriatric Service and a Psycho-Geriatric Service.

Some nursing homes hold classes in "Reality Orientation". Patients are tested for Time, Place and Person Orientation. They are then taught effective eating, dressing, grooming, communication and locomotion patterns. They report considerable success in this effort.

Physicians are human. They can be completely turned off by fecal and urinary odors. One nursing home reports considerable success with the use of Chlorophyllin Tablets in the care of Geriatric patients. It uses Derefyll Tablets, 100 mg. T. I. D. for 10 days, then one B.I.D. indefinitely to control body and fecal orors, to ease chronic constipation (albeit a green stool), to build morale as a placebo and to abate excessive flatus. This is thought also to have an antibacterial effect, but has not been proven.

One skilled nursing home reports the physician acceptance of a clinical pharmacy service. It has been determined that including a pharmacist in the multidisciplinary therapeutic team is a helpful contribution to the care of the patient and contributes to the control of nursing home costs. The pharmacist is the one individual most likely to know relative costs and alternate therapeutic agents. The physician acceptance rate is about 75%.

As a Family Physician, I was interested in reading an article on the characteristics of Family

Practitioners with large Geriatric practices. These individuals are usually older physicians. They are also more hospital oriented. The future indicates that Family Physicians will care for substantial numbers of elderly patients as their numbers increase. This of course means that Family Physicians will also increase in number. It is interesting that the most active housestaff in the Geriatric Unit at the Veterans Administration Hospital in Little Rock are Family Practice Residents and Fellows. It is also interesting that Family Physicians over the state demand Continuing Education courses in Geriatrics. We have been scheduling many such courses at the College of Medicine. This is one method of providing optimal health care for the elderly.

I have always been curious as to why physicians did not like to visit patients in nursing homes. Some complained of the smell, much as I have done. Others felt that they were not paid enough for their services. No matter how many patients they visited, they were being paid only for a single visit. Others felt that they used up too much of their time when there was so little that they could do for these people. Some felt that the situation was hopeless and this fact disturbed their egos.

Physicians feel that they were trained to treat the ill with some hope of success. Treating the feeble elderly produced little chance for a successful conclusion. The quality of nursing care in many rural nursing homes left a great deal to be desired. The general environment in some nursing homes is not one that would stimulate interest on the part of the physician.

It is my feeling that an effort to upgrade patient care, to make the environment more pleasant, to provide better remuneration for the physician, to keep better records, to stimulate the patients to show more interest in their own welfare, to provide recreational activities for those who can be stimulated, to become more innovative from both the environmental and physical standpoint and to call upon the physician for suggestions and implementation, can result in a better attitude on the part of both the physician and his patient.

Daniel Webster once said, "Men can do jointly what they cannot do singly; and the union of minds and hands, the concentration of their power, becomes almost omnipotent". We all need to learn. Perhaps the Gerontology Center can help turn things around for all of us.



ELECTROCARDIOGRAM



OF THE MONTH

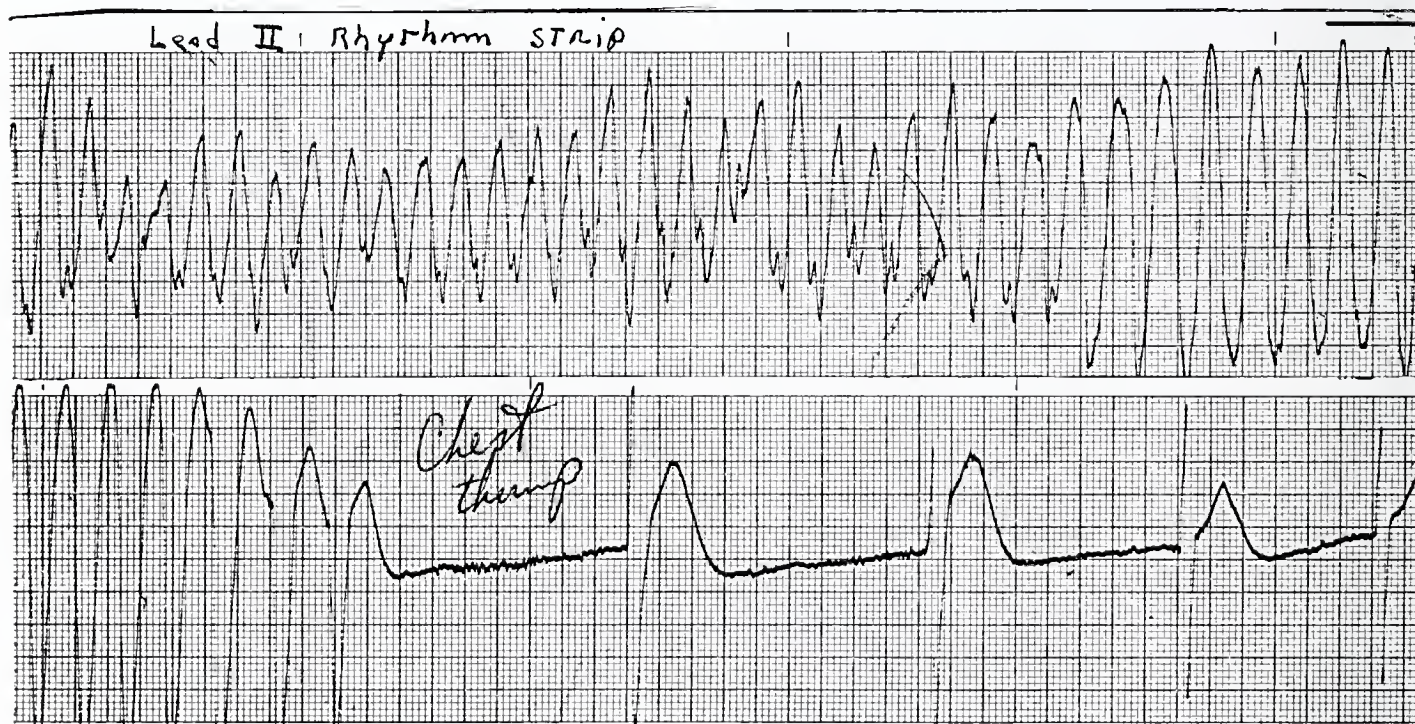


The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 164)

HISTORY: Mr. W. is a 40-year-old man with no cardiovascular symptoms who had a routine electrocardiogram done for insurance purposes which showed a prolonged QT interval and premature ventricular contractions. His physical examination was normal. He was treated with Quinidine and then started having syncopal episodes. The rhythm strip shown below was obtained during one of these episodes. Please note that the polarity of the QRS complexes seems to spiral about the baseline of the ECG, the rate of the tachyarrhythmia is about 240/minute, and that, in this instance, a chest thump rather than electrical countershock converted the arrhythmia.

What is the tachyarrhythmia?



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Medical Grand Rounds

Hemoptysis

Kevin McCusker, M.D., Elizabeth Jacobs, M.D., Peter Marvin, M.D.,
Mark Wewers, M.D., and Frank Hansen, M.D.*

Expectoration of blood is an event which usually prompts an immediate search for medical attention. It is a common clinical problem; approximately 10 percent of patients in a chest clinic are seen for hemoptysis.¹ Since hemoptysis is associated with over 100 different diseases, its presence does not suggest a specific diagnosis. Diagnostic accuracy is aided by a thorough and systematic approach.

The purpose of this presentation is to provide a workable differential diagnosis of hemoptysis, to define mild, moderate and massive hemoptysis, and to briefly review current therapy.

Differential Diagnosis

Bleeding nasopharyngeal lesions and hematemesis must be excluded since they may mimic hemoptysis. Causes of hemoptysis can be divided into four broad categories: infectious, autoimmune, vascular and neoplastic (Table 1).² Infections include tuberculosis, acute bronchitis, lung

abscess and, less commonly, schistosomiasis and other parasitic invasion. In the autoimmune category are Goodpastures' disease, Wegener's granulomatosis and, less commonly, lupus erythematosus and other forms of vasculitis. In the vascular category are mitral stenosis, pulmonary artery hypertension and pulmonary embolism. The most common neoplasm is endobronchial carcinoma, but bronchial adenoma is a possibility in younger patients.

Major concerns in the approach to hemoptysis are first to rule out cancer; second, to determine treatable causes, and third, to identify bleeding sites in case of future unpredictable bleeding.³

Hemoptysis by itself is of little diagnostic value for it has been described in almost every pulmonary disease. The three most common causes are chronic bronchitis, cancer, and tuberculosis (either old or new). The treatment of mild hemoptysis is the treatment of the underlying cause; occasionally bed rest and sedation are helpful. Severe or massive hemoptysis may require endobronchial tamponade, resection or bronchial artery occlusion.

Mild to Moderate Hemoptysis:

History and physical examination are of limited value in the workup of a patient with hemoptysis but may provide important diagnostic clues. The nature of hemoptysis usually means little, but pink, frothy hemoptysis suggests a vascular cause such as congestive heart failure, mitral stenosis or pulmonary embolism. Purulent hemoptysis points to an infectious cause: lung abscess, bronchiectasis or chronic bronchitis. Recurrence of hemoptysis over months or years is more likely to be from chronic infection or a benign adenomatous process. Recurrent small amounts of hemoptysis may represent a developmental anomaly such as telangiectasia or an arteriovenous malformation. A long history of cigarette smoking in a patient over the age of 40 with persistent hemoptysis suggests carcinoma of the lung. Symptoms of mycobacterial or fungal disease are important because they cause hemoptysis frequently and their diagnosis may not be obvious. Symptoms or

TABLE 1
Causes of Hemoptysis

I. Infections
Tuberculosis
Acute bronchitis, chronic bronchitis
Lung abscess
Parasites
II. Autoimmune
Goodpasture's disease
Wegener's granulomatosis
Lupus erythematosus
III. Vascular
Mitral stenosis
Pulmonary hypertension
Pulmonary embolus
Arteriovenous malformation
IV. Neoplasm
Carcinoma
Adenoma

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Presented May 5, 1981, University of Arkansas Medical Science Campus, Department of Medicine, Pulmonary Division, Little Rock, Arkansas.

Edited by George L. Ackerman, M.D., Professor of Medicine and Vice Chairman, Department of Medicine.

predisposing factors for pulmonary embolic disease are stressed since overlooking pulmonary embolism in the patient with hemoptysis may delay proper therapy.

Examination of the thorax is not always productive but may disclose 1) a pleural rub, suggesting embolism with infarction; 2) cardiac murmur, suggesting valvular disease or heart failure; or 3) non-cardiac murmur, suggesting arteriovenous malformation. Nasopharyngeal examination should be done to exclude nonpulmonary causes, such as epistaxis or some other nasopharyngeal lesion producing bleeding that is mistaken for hemoptysis.

Approximately one-third of chest x-rays of patients with mild to moderate hemoptysis will be normal. Evidence of unilateral lung disease is helpful, but disease processes may be bilateral when the chest x-ray shows unilateral disease. A unilateral mass or enlarged hilum suggests bronchogenic carcinoma as the source of hemoptysis. A pneumonic infiltrate or abscess may immediately reveal the bleeding source. Bilateral apical changes indicate an inflammatory cause, such as tuberculosis or fungal disease.

Baseline laboratory studies should include: a CBC with platelet estimate or platelet count; 2) arterial blood gases; 3) sputum cytology, sputum smear, and sputum culture for acid-fast bacilli and fungi. The value of a Gram stain of the sputum is controversial.

Which patients should have fiberoptic bronchoscopy? Some would say all. However, one recent study advises more patient selection to increase the diagnostic yield and lower the cost of reaching the proper diagnosis. Weaver and co-workers prospectively studied the diagnostic yield of bronchoscopy in hospitalized patients presenting with hemoptysis, excluding 40 patients in whom the hemoptysis was considered the result of a benign process. Of 70 hospitalized patients undergoing fiberoptic bronchoscopies, 28 had malignancy.¹⁹ No patient under age 40 had cancer, and there were no cancers in patients with normal chest x-ray. Of patients without chronic bronchitis, only seven percent had a malignancy and only 12 percent of those with a smoking history of less than 45 pack-years had malignancies. Only 14 percent of patients with hemoptysis for less than a week had malignancies. The combination of age below 40, bleeding of less than one week's duration and normal chest x-ray was

suggested as obviating bronchoscopy since malignancy is unlikely in that group of patients.

Bronchoscopic examination with a fiberoptic bronchoscope should be done to evaluate the initial episode of hemoptysis in all patients except: 1) patients less than 40 years old with normal chest x-rays with bleeding of less than a week; 2) those with a clearcut contraindication, and 3) those with a definite diagnosis of active tuberculosis, abscess, pneumonia or other infectious process felt to be the cause of hemoptysis. These exclusions may not apply to patients with strong clinical evidence for malignancy, or for those who have been heavy smokers since childhood.

How should one proceed when the above studies fail to reveal the cause of the hemoptysis? Ninety percent of patients in whom the cause of hemoptysis is not found ("essential" or "idiopathic" hemoptysis) will have no recurrence of hemoptysis and seldom develop cancer or tuberculosis.³ Occult pulmonary vascular disease may explain a few of these cases of undiagnosed hemoptysis. Recurrence of hemoptysis within one year after the first episode should, however, be fully re-evaluated for there may be cancer or tuberculosis not found on the first evaluation.

To summarize the diagnostic approach to patients with mild to moderate hemoptysis: history and physical examination should be done with attention to the nasopharynx, chest and heart. Chest x-ray should be obtained though it will be normal in a third of the patients. Laboratory data should include CBC, blood gases and possibly pulmonary function studies. Sputum should be collected for cytologic examination and acid-fast stain. Bronchoscopy should be done while the patient is bleeding since the presence of active bleeding increases the yield from bronchoscopy to 80 or 90 percent. If these studies fail to reveal the cause of hemoptysis, periodic examinations or visits may reassure the patient (and the physician) but will probably not increase diagnostic yield.

Massive Hemoptysis

The most widely accepted definition of massive hemoptysis is expectoration of greater than 600 cc of blood in a 24-hour period. The mortality of pulmonary hemorrhage is most closely correlated with the severity of obstruction of the tracheo-bronchial tree by the presence of the blood, rather than with the underlying pulmonary disease or total blood lost. In other words, patients with massive hemoptysis die of asphyxiation rather

than exanguination.⁵ A patient with an already compromised pulmonary reserve will be threatened by respiratory insufficiency with less than 600 cc of blood in 24 hours. Thus, any amount of bleeding which seriously compromises the airway and adequate ventilation should be considered massive.

Most commonly, massive hemoptysis is the result of a chronic inflammatory process, such as tuberculosis, lung abscess or bronchiectasis. Carcinoma accounts for less than 10 percent of cases of massive hemoptysis.

Tuberculosis, both healed and active, accounts for over 50 percent of cases of massive hemoptysis. Pathologically, tuberculous lesions are blood filled cavities surrounded by granulomas of varying ages. Within the cavities are collections of large, dilated, tortuous vessels referred to as Rasmussen's aneurysms,⁶ the site of bleeding in patients with tuberculous cavities.

Bronchiectasis of the classical variety is becoming less prevalent in this antibiotic era, but remains a major cause of massive pulmonary bleeding in the older segment of the population. A closely related disorder, cystic fibrosis, is becoming more prevalent as more intensive pulmonary and antibiotic therapy allows survival of these patients into adulthood.⁷

Lung abscess is complicated by hemoptysis in 10 to 20 percent of patients, and up to 50 percent of those who bleed will do so massively.⁸ Prognosis without resection is poor.

Nearly 90 percent of patients with massive hemoptysis have a highly treatable or curable underlying disease if they can be safely managed through the period of threatened airway obstruction.¹⁸ Thus it is imperative that all patients with massive bleeding of unknown etiology be approached aggressively.

Less common causes of massive hemoptysis are listed in Table 2. Bronchial adenomas occur mainly in young females. Lymphangiography typically causes mild hypoxemia and blood tinged sputum but may result in more extensive bleeding requiring transfusions.⁹ Arteriovenous fistulae

are associated with Osler-Weber-Rendu syndrome in 40-70 percent of the cases, but may occur secondary to diseases such as metastatic lung cancer, hepatic cirrhosis and pulmonary schistosomiasis.⁶ Aspergillomas represent five percent of the cases of massive bleeding in some series,¹⁰ with erosion of the nutrient arterial stalk precipitating hemoptysis. Mitral stenosis and septic tricuspid endocarditis in patients with histories of rheumatic heart disease and intravenous drug use, respectively, are additional uncommon causes of massive hemoptysis.¹¹ Iatrogenic causes of massive hemoptysis include transthoracic needle or transtracheal forceps biopsy and rupture of a tracheo-innominate fistula following tracheostomy.⁵

The mortality of patients with massive hemoptysis managed conservatively with bed rest and sedation approaches 75-80 percent, irrespective of the underlying cause. In contrast, surgically managed patients can expect an overall mortality of 18 percent (37 percent if the hemorrhaging is controlled intraoperatively; 8 percent if bleeding has slowed enough to allow adequate ventilation at the time of surgery).⁴

The initial approach to a patient with massive pulmonary bleeding is directed towards maintenance of the airway. If the patient is alert and cooperative, he should be placed in a Trendelenberg position to promote drainage. Should the bleeding site be known, the patient should also be placed in the lateral decubitus position with the bleeding side down to prevent spillage into the other lung. If there is any impairment in the level of consciousness, endotracheal intubation must be performed to clear the airway. For massive right sided bleeding, Gourin has described a technique of deliberate left mainstem intubation with cuff inflated to protect and ventilate the uninvolved left lung in the pre- and perioperative period.^{4,15} When left sided bleeding occurs, a Fogarty balloon catheter is inflated to occlude the left mainstem bronchus, and the endotracheal tube is left in the usual position to ventilate the right lung. All patients with massive hemoptysis should be typed and cross-matched for blood as soon as an airway is established.

Localization of the bleeding site is done primarily with either a flexible or rigid bronchoscope. The rigid bronchoscope has been advocated for massive bleeding as its larger channel allows more room for suctioning and therapeutic intervention but some investigators have reported equally satis-

TABLE 2

MASSIVE HEMOPTYSIS — LEADING CAUSES

Tuberculosis
Bronchiectasis
Lung abscess
Bronchogenic carcinoma

factory results with the flexible bronchoscope. Bronchoscopy should be done in the operating room with either instrument so that thoracotomy can be done immediately after the bleeding site is identified if the patient is a suitable surgical candidate.

Bronchial arteriography and therapeutic embolization is a technique developed within the past five years available at special institutions.^{12,13} The bronchial arteries are selectively catheterized and visualized with radio-opaque dye. A site at which extravasation of dye is demonstrated is assumed to be the site of bleeding. The bronchial artery is then injected with oxidized cellulose fragments or other material which temporarily occludes the blood flow through that artery. The major complication is occlusion of the anterior spinal artery if it is in communication with the embolized artery. Such a communication is unusual, but is a contraindication to embolization. Selective bronchial artery embolization is highly successful in the patient who is not suitable for surgery, and may be repeated if bleeding recurs.

Endobronchial control of bleeding has been achieved in some patients with a rigid bronchoscope and pledgets soaked in vasoconstrictors or thrombin, but generally results with this approach are disappointing. Another technique of endobronchial control involves the placement of a Fogarty balloon catheter into the bleeding subsegmental bronchus with either a flexible or rigid bronchoscope to tamponade the bleeding vessel.^{14,16} Successful endobronchial control of bleeding using a rigid bronchoscope and iced saline lavage has been described. Endobronchial tamponade provides a means of airway control in the preoperative period, or as a therapeutic alternative in those patients in whom surgery is contraindicated.¹⁷

In conclusion, the mortality of massive hemoptysis is related to obstruction of the airway by the

presence of blood in the respiratory tree. The underlying disease is reversible in nearly 90 percent of such patients. Early surgical intervention is the treatment of choice in most patients with massive hemoptysis, but arterial embolization and endobronchial control of bleeding offer alternatives to those patients who are not surgical candidates because of severe underlying pulmonary dysfunction or advanced systemic metastases.

SUMMARY

Hemoptysis is a frightening sign to a patient. Hemoptysis is associated with virtually every pulmonary disease, so its presence does not suggest a specific diagnosis. It is helpful initially to categorize the hemoptysis as either mild or massive. Mild hemoptysis requires a diagnostic approach with attention to smoking history, previous pulmonary disease, and heart problems. Fiberoptic bronchoscopy during active bleeding may increase diagnostic yield.

Massive hemoptysis is an emergent problem and requires immediate treatment. In essence, patients may drown in their own blood without a vigorous approach. Most cases of massive hemoptysis result from potentially treatable disorders. Immediate treatment includes bronchial artery embolization, endobronchial tamponade, or surgical resection to control bleeding. After the patient is stabilized hemodynamically, the underlying cause is treated.

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TABLE 3

MASSIVE HEMOPTYSIS — LESS COMMON CAUSES

Bronchial adenoma
Lymphography
Pulmonary Arteriovenous fistula
Aspergillosis
Ruptured aortic aneurysm
Goodpastures/Wegeners
Valvular heart disease
Iatrogenic

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EDITORIAL

Emboli From Venous Thrombosis

Alfred Kahn, Jr., M.D.

Physicians have been aware of thrombophlebitis for centuries. It has been the focus of many studies. One surgeon, John Homans, devoted much of his research time to the study of thrombophlebitis. There have been numerous discussions through the years detailing the varying roles of the inflammation of the vein and the clot in the lumen of the vein. Early authors spent a good deal of time differentiating thrombophlebitis in which there was an acute reaction in the wall of the vein as well as a clot in the lumen of the vein; this was characterized as the very acute tender area often noted superficially in the calf. This was contrasted with the so-called deep venous thrombosis in which there seemed to be much less inflammatory reaction in the vein—but there was blood clot formation in the lumen of the vein.

It is now felt that superficial thrombophlebitis—the acute inflammatory reaction—is not likely to produce pulmonary emboli. On the other hand, deep venous thrombosis is a source of pulmonary emboli.

Lately, Moser and LeMoine have written an article entitled “Is Embolic Risk Conditioned by

Location of Deep Venous Thrombosis?”; it is published in the *Annals of Internal Medicine*, Volume 94, Page 439, April, 1981. The authors feel that the treatment of all patients with deep venous thrombosis is simplistic. In the past, many physicians have been used to using anti-coagulants in almost every case of deep venous thrombosis because of the fear of the lethal pulmonary embolus; the authors tend to take issue with this position. Moser and LeMoine studied 68 patients to try and determine if there was equal risk of pulmonary embolus regardless of the location of the embolus. They felt secure in performing this study because of the sensitive techniques for determining thrombophlebitis, including: radio-labeled fibrinogen leg scans and impedance plethysmography. They used these techniques to try and discover if there was a group of patients who really need anti-coagulants and if there is a second group of patients in whom pulmonary emboli was rather unlikely to occur.

In the study of 67 patients, deep venous thrombosis was discovered by using a venography technique. In 21 of these individuals who had

thrombophlebitis, the thrombosis was confined to the calf veins; in 15 patients thrombosis was in the proximal thigh as well as in the calf vein. It is of interest that if the thigh vein was involved, the calf vein was also involved in the thrombotic process.

The authors checked the radiolabeled fibrinogen and impedance tests against the findings by the venography. It is of interest that the radiolabeled fibrinogen revealed good positive results in the 21 patients with thrombosis only in the calves. When the technique was applied to the 15 patients with thrombosis in the thigh as well as in the calf, the radiolabeled fibrinogen test was able to detect the thrombosis in nine cases. The impedance test was able to pick up thrombosis in six of the 21 patients who had calf thrombosis, but was abnormal in the 15 patients who had thrombosis in the thighs.

The 68 patients were submitted to perfusion and ventilation scans and this turned out to be very important. The authors found that eight of the 15 patients with thrombosis in the thigh had thrombosis tests for pulmonary embolus. The 21 patients with thrombosis confined to the calf had no pulmonary embolus. It would thus appear that pulmonary embolus develops in patients who had deep venous thrombosis involving the thigh as well as the calf—and that did not occur in cases in which the thrombosis was confined to the calf. This raises an interesting question: Can the treating physician safely avoid anti-coagulants in which the deep venous thrombosis involves only the calf area? The authors very wisely suggest a much larger sample of cases should be studied before a final opinion be given about this.

The authors are very careful not to try to influence the treating physician into a posture of avoiding the use of anti-coagulants in all cases of deep venous thrombosis involving the calf only—but these statistics certainly suggest that pulmonary emboli are very unlikely to occur in untreated cases of deep venous thrombosis confined to the calf only. The difference in the number of emboli which come from deep venous thrombosis in the thigh as compared to those confined to the calf is not really known. The difference in these statistics may be the result of weak attachment of the thrombus in the thigh compared to the calf; it might have to do with the size of the emboli, etc.

In studying the statistics, Moser and LeMoine

found some interesting features in these cases; no evidence of deep venous thrombosis confined to the calf extended into the thigh—although this is reported to occur in the literature. Secondly, they state that they have found no thrombosis in the thigh unless there was an associated thrombosis in the calf. Lastly, they encountered a high instance of thrombosis in the thigh, which they assumed to be due to the referral.

Thus, the authors did not use the research as a basis for condemning the use of anti-coagulants when deep venous thrombosis develops in the calf muscles only, but the thrust of the article is to stimulate more studies as current new non-invasive tests of detecting deep venous thrombosis in the thigh may enable the practicing physician to make a better judgment as to whether anti-coagulant therapy should be used in cases having unusual complications.



ANSWER—Electrocardiogram of the Month

DISCUSSION: Dessertenne described an arrhythmia which he termed "Les Torsades de Pointes", so called because of the manner in which the peaks of the QRS complexes appeared to be twisting about the baseline or isoelectric line of the recording. The usual rate for this arrhythmia is said to be between 200 and 240 beats per minute, but with a range of 160 to 280 beats per minute. Torsades de Pointes almost always occurs in the setting of prolongation of the QT interval, is usually initiated by a premature ventricular beat, may terminate spontaneously, and is worsened and/or caused by drugs such as Quinidine which prolong the QT interval. It is thought to be a transitional ventricular arrhythmia between ventricular tachycardia and ventricular fibrillation. Causes of Torsades de Pointes include congenital QT prolongation syndromes, complete AV block, drugs, electrolyte disturbances, myocarditis, CNS disease, and liquid protein diets. Quinidine and procainamide are contraindicated in therapy and lidocaine and propranolol have both met with variable degrees of success in treating the arrhythmia. Bretylium may help. Overdrive atrial pacing (ventricular pacing if AV block is present) is said to be the therapy of choice and isoprenaline infusion generally will yield emergency control of the arrhythmia. This particular patient most likely had congenital prolongation of the QT interval and Quinidine probably resulted in the arrhythmia. After stabilization, he did much better without Quinidine.

"From Other Years"

From the University of Arkansas for Medical Sciences Library,
History of Medicine, Archives Division.

Journal of the State Medical Society of Arkansas

Vol. 1 No. 10 April, 1891 p. 448-9

The State Society

The Programme

As stated in the last issue of the *Journal*, it was expected that section officers and members who intended to contribute papers, would be sufficiently prompt in sending their titles to the Secretary of the Society, to enable him to prepare the whole programme in time for publication in this issue. But all of the titles of papers that have been promised, have not been forwarded in time, and therefore, only a partial list is here given:

The Annual Address of the

President.....By Dr. J. A. Dibrell, Jr., Little Rock

Section on Practice

Address of the

Chairman By Dr. J. S. Shibley, Paris
Suggestion, as a Therapeutic Measure, or

Mind Cure By Dr. T. W. Hurley, Bentonville

Phlebitis By Dr. W. B. Barner, Nashville

Asthma By Dr. C. S. Gray, Little Rock

Cancer of the Liver and

Omentum Dr. C. Watkins, Little Rock

Neuresthenia...By Dr. W. P. Owens, DeValls Bluff

A Case of Cerebellar Tumor, History,

Diagnosis, Treatment and

Autopsy By Dr. J. S. Shibley, Paris

Pneumonia, with Report of

Cases By Dr. A. J. Brewer, Mountain Home

Section on Surgery

Address of the

Chairman By Dr. Geo. S. Hynes, Fort Smith

Report of an Ovariectomy,

Recovery By Dr. B. Hatchett, Fort Smith

Report of One Hundred Surgical

Cases By Dr. J. W. Webster, Cincinnati

Is the Operation for Strabismus So Simple

or So Successful as Ordinarily

Considered Dr. T. E. Murrell, Little Rock

Report on

Glaucoma By Dr. H. Moulton, Fort Smith

A Case of

Ovariectomy...By Dr. J. D. Southard, Fort Smith

Reports of Surgical

Cases By Dr. J. A. Dibrell, Jr., Little Rock

Tumors of the Orbit, with Report

of a Case By Dr. A. J. Vance, Harrison

A Report of a Case of Cleft Palate, Closed at the

Alveola Process in an Infant During the First

Month By Dr. George F. Hynes, Fort Smith

Treatment of Cancer by the Interrupted Galvanic

Current By Dr. D. J. Prather, Little Rock

Section on Obstetrics and Gynaecology

Address of the

Chairman By Dr. J. T. Jelks, Hot Springs

Puerperal Fever By Dr. L. R. Cates, Kingsland

Chloroform in Natural

Labor By Dr. A. J. Brewer, Mountain Home

Placenta Praevia...By Dr. W. B. Barner, Nashville

Analgesics in So-Called Normal

Labor By Dr. L. R. Stark, Little Rock

Report of Cases in Gynaecology Treated by

Electricity By Dr. D. J. Prather, Little Rock

Why I Failed to Get Permanent Union in a

Case of Laceration of the Cervix

Uteri By Dr. D. J. Prather, Little Rock



THINGS



TO

COME

October 1-2

Medical Staff Leadership Conference. The Southern Medical Association. Lake Ozark, Missouri. Eleven hours Category I, AMA Physician's Recognition Award. Eleven elective hours by the AAFP. For more information, contact: Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201, phone (205) 323-4400.

October 2-3; October 16-17; October 30-31

Choosing and Using a Computer System in a Private Medical Practice. University of Health Sciences/The Chicago Medical School. Sixteen CME credits in Category I. Tuition \$295. To be presented: October 2-3 at Hyatt Regency in Fort Worth; October 16-17 at Hyatt Regency/Woodfield (Chicago); and October 30-31 at Riviera in Las Vegas. For further information, contact: Connie Scott, Seminar Coordinator, The Chicago Medical School, One Chapman Road, Burlington, Illinois 60109, phone (312) 683-2066.

November 13-14

Arkansas Orthopaedic Society fall meeting. Red Apple Inn, Heber Springs. For further in-

formation, contact: Dr. James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801.

December 3-5

Second Annual Combined Physician-Therapist Conference on "The Evaluation and Current Treatment of Athletic Injuries: The Lower Extremity Kinetic Chain." Sports Physical Therapy Section of the American Physical Therapy Association and Medical College of Virginia School of Physical Therapy. Seventeen hours AMA Category I. Hyatt Regency O'Hare, Chicago. For advanced registration, contact: Ms. Kathy Johnson, Continuing Medical Education, Box 48, MCV Station, Richmond, Virginia 23298.

1982

February 3-4

The International Advanced Hair Replacement Symposium. Birmingham, Alabama. Sponsored by American Academy of Facial Plastic and Reconstructive Surgery, Inc. Registration fee: \$420. For further information, contact: Dr. D. B. Stough, III, Program Director, Doctors Park, Hot Springs, Arkansas 71901, or Dr. Gary D. Monheit,

Program Co-Director, 1717 11th Avenue South, Suite 521, Birmingham, Alabama 35205.

March 1-5

United States-Canadian Division of the International Academy of Pathology annual meeting. Sheraton Boston, Boston, Massachusetts. For further information, contact: Dr. Nathan Kaugman, Secretary-Treasurer, United States-Canadian Division of the International Academy of Pathology, 1003 Chafee Avenue, Augusta, Georgia 30904, phone (404) 724-2973.

May 24-28

"Reconstructive Microsurgery: An Indepth Symposium and Workshop." International Society of Reconstructive Microsurgery and Department of Continuing Medical Education of Presbyterian Hospital. Sheraton Century Center Hotel, Oklahoma City. Information about the course may be obtained by contacting Dr. Hal Vorse, Director, Continuing Medical Education, Presbyterian Hospital, Northeast Thirteenth and Lincoln Boulevard, Oklahoma City, Oklahoma 73104, phone (405) 271-6447.



MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

The Reagan Administration has won hands-down its five month budget campaign in the Congress. Some mop-up operations with an occasional skirmish here and there is all that remains in carrying out the President's promise to reduce federal spending.

The budget reconciliation triumph in the Democratically-controlled House of a bill backed by the Administration nailed down a successful outcome in Congress for the President's economy program to reduce federal expenditures next fiscal year by more than \$38 billion. The 217-211 vote also made clear that the House is controlled effectively on major issues by a coalition of Republicans and conservative Democrats. The

major impact on health will be a \$1 billion slash in federal Medicaid outlays and a \$1 billion cut in spending in 26 categorical grant health programs.

The only setback in the House was the decision not to press for a vote on a Republican substitute plan for the budget package approved by the Democrats on the House Commerce Committee. Although the Democratic plan met the health budget targets set by the Administration, it took a different road and did not remove some of the programs the Administration wants to phase-out such as Professional Standards Review Organizations (PSROs) and Health Planning.

The substitute plan prepared by Rep. James Broyhill (R-N.C.), ranking Republican on the

Commerce Committee, would have ended these programs and hewed strictly to the Administration's original block grant and Medicaid proposals.

The health budget measures weren't included in the overall successful budget proposal authored by Reps. Phil Gramm (D-Texas) and Delbert Latta (R-Ohio) because the Republicans on the Commerce Committee had been assured earlier by the Democratic leadership that they would have an opportunity on the House floor to seek a vote on their plan, since the Commerce Committee had deadlocked 21 to 21 on the Democratic plan.

With 29 Democrats breaking ranks, the Gramm-Latta measure prevailed by a six-vote margin over the budget bill prepared by the House committees with the exception of the set-aside Commerce Committee bill.

Broyhill decided apparently that there was danger of losing a handful of votes (only a switch of four votes would be fatal) and announced that he was withdrawing his substitute. He told the House that Commerce Committee Chairman John Dingell (D-Mi.) promised that "he wants to work with us to resolve whatever differences that we have between our versions as we go into conferences."

* * * *

The Senate has concluded hearings on the emotion-laden issue of when human life begins.

The American Medical Association opposed the legislation that declares human life shall be deemed to exist from conception.

"The practical effects of the proposed legislation are staggering," said Joseph Boyle, M.D., AMA Board Chairman. Dr. Boyle told the Senate Judiciary Subcommittee that "passage of this bill would have an adverse impact on critical physician-patient relationships and would create endless medical, ethical and legal difficulties for the people of this nation."

Physicians could face serious dilemmas in advising pregnant patients, Dr. Boyle said. Under the bill, he noted, the physician would be responsible for the welfare of every fetus whose legal and health interest would, in the eyes of the law, be equal to, but may be in conflict with those of the woman."

Dr. Boyle listed some of the life-endangering conditions of pregnancy that physicians are presented with, and said the bill does not address these physician dilemmas or provide answers to physicians who must deal on a daily basis with these critical situations."

Effective medical intervention in these life-threatening situations would be prohibited under the measure, he said.

The issues raised by the bill go far beyond the realm of medical science and into social, religious, philosophical, ethical and moral concerns, the witness said. "The issue is unsolvable solely from a medical and scientific view."

"In sum," concluded Dr. Boyle, "we see no end to the negative medical, legal, social, ethical, and moral repercussions of a national policy that declares that human life begins at the time of conception."

The bill in effect would allow the states to prohibit abortion for any reason. Anti-abortion advocates also have been pushing a Constitutional amendment that would achieve the same purpose. The outlook for either approach getting through Congress this year appears dim. To date, the lawmakers have concentrated their efforts on limiting the use of Medicaid funds for abortions.

* * * *

Restricting freedom of choice for Medicaid beneficiaries would have a "devastating result" on the poor, the AMA has told Congress.

"A system under which Medicaid recipients have their freedom of choice restricted would result in an officially-sanctioned dual system of health care: one level of service for the poor, and a superior level of choice and options for everyone else," said Frederick Ackerman, M.D., Chairman of the AMA Council on Legislation.

The proposal was made by the Reagan Administration to accompany the five percent "cap" on federal Medicaid expenditures next fiscal year.

Testifying before the House Commerce Subcommittee on Health, Dr. Ackerman said the AMA endorses the concept of a cap "as part of the President's program for improving the overall economic situation. We believe that if there is to be a general reduction in funds for federal programs across the board, health programs should shoulder their share of the cuts."

Taking issue with the curb on freedom of choice, however, Dr. Ackerman said "the individual should have the opportunity to select and change at will the physicians who serve him, or be permitted to choose to enroll in prepaid medical care organizations, or choose to use services provided by a closed panel or group practice."

This freedom is "fundamental," the AMA official declared.

The plight of the poor "would be even further aggravated" by another Administration proposal to eliminate current reimbursement requirements in the Medicaid law, Dr. Ackerman said. If Medicaid beneficiaries should remain eligible for quality care, "then it is important for all providers to receive reasonable reimbursement," Dr. Ackerman said.

Dr. Ackerman noted that the AMA in supporting a Medicaid cap has not suggested any particular figure. He expressed concern about the Senate Finance Committee's decision to lower the federal minimum matching percentage from 50 percent to 40 percent. This proposal would primarily hit 12 states and the District of Columbia. "The AMA believes that reductions should be sought which treat all states in a fair and equitable manner," he said. "We believe that no state should be required to suffer cuts disproportionate to other states."

Achieving economies in Medicaid won't be easy, but states should be able to maintain essential services through greater efficiencies in administration and by elimination of fraud and abuse through vigorous enforcement of the law and judicious cutbacks where eligibility has become over-extended," Dr. Ackerman said.

* * * *

The question of whether the federal government has the right to forbid professional associations such as the AMA from enforcing ethical restrictions against advertising will be decided by the Supreme Court.

In a brief order, the Court agreed to hear the AMA's appeal from the 1979 FTC ruling that barred the AMA from involving itself in physician advertising unless the advertising would be "false or deceptive" as defined by the FTC. After an Appeals Court by a 2-1 vote upheld the FTC last October, the AMA went to the Supreme Court, declaring the case is of "enormous importance"

because it allows the government to "prevent professionals who have voluntarily associated together from taking a position against promotional practices which they believe to be deceptive."

As is customary, the high court gave no explanation for accepting the case for review. A hearing will be held this fall, following the summer recess. A decision won't be issued until later, probably next year.

The AMA said that if the FTC is upheld "the real loser will be the public, often the poor or unsophisticated, who are drawn to incompetent practitioners by the meaningless testimonials, inflated promises, non-verifiable claims of superiority and outright lies that the AMA's 1976 statement (on advertising and solicitation) had condemned."

The Supreme Court was asked to hear the case "before responsible medical societies . . . simply abdicate the field to a government agency (FTC, which itself acknowledges that it is incapable of drafting precise guidelines."

Joining the AMA in the appeal were the Connecticut State Medical Society and the New Haven County Medical Association, both of which were named in the FTC's original 1975 complaint. The American Dental Association supported the AMA position and has agreed to abide by rules similar to those set out for the AMA.

* * * *

The Federal Trade Commission has been challenged from another quarter. Legislation has been introduced in Congress to impose a moratorium on the FTC's moves against state-regulated professions, including the medical profession.

Rep. Thomas Luken (D-Ohio) has told the House that "one of the most questionable and controversial areas of expansion by the FTC in recent years has been its involvement in activities of state regulated professions." He continued: "Even though it has never been given express authority by Congress to do so, it has increasingly sought to usurp state responsibility, override state laws, and preempt state regulation of state regulated professions."

Luken said his bill would impose a moratorium on FTC action in the area until Congress determines what appropriate role, if any, the Commission should have with respect to state regulated professions.

Introduction of the legislation by Rep. Luken and Rep. Gary Lee (R-N.Y.) came shortly after word came from the FTC that it is preparing to release a lengthy study on the influence of professional health associations in planning, peer review, and rate-setting. A few days later, the Supreme Court announced its decision to hear the AMA versus FTC advertising ethics case.

* * * *

The Supreme Court has pulled some of the teeth from the federal health planning law, ruling that it did not provide blanket antitrust immunity of the sort that would allow insurers to blackball hospitals that flout the planning program.

By a unanimous vote, the Supreme Court held that Blue Cross was not justified in boycotting a Kansas City, Mo., hospital—National Geromedical Hospital and Gerontology Center—because the hospital's construction was not approved by the local planning agency on grounds the area had sufficient hospital beds.

Most state planning laws now require a certificate-of-need for such construction from the planning agencies, but in 1976 the Missouri planning agency — Mid-America — only advised against construction. The advisory nature of the planning agency's objection was stressed in the high court opinion.

Justice Lewis Powell said the action challenged in court was neither compelled nor approved by any governmental regulatory body. It was a spontaneous response to the finding of only an advisory planning body, he said.

The court said that there is no reason to believe that Congress specifically contemplated enforcement of advisory decisions of a Health Systems Agency by private insurance providers.

* * * *

The Administration is exploring ways such as tax incentives to encourage employers to offer worksite prevention programs, Health and Human Services (HHS) Secretary Richard Schweiker has disclosed.

"If effective, this, in turn, would stimulate insurers and providers to offer preventive programs," he told a meeting on alcohol, drug abuse and mental health problems.

Schweiker said employer programs pay dividends in terms of increased production, noting

that alcohol abuse is estimated to cost \$12.5 billion a year in lost productivity.

A health strategy "with prevention at its core offers us ways to foster health with a minimum of federal involvement and personal expense," the HHS Secretary declared.

A preventive measure that "can promote the health of millions of Americans" at little cost would be mandatory sodium labelling for all processed foods, the AMA has told Schweiker.

The AMA wrote Schweiker that food companies "have an obligation to at least let the public know how much sodium their products contain. There is no excuse for denying this basic, but vital, information. Without it, individuals cannot act to protect their own health."

Nothing that excess sodium clearly aggravates high blood pressure in those who already have the disease, the AMA said mandatory sodium labelling "would generate very little expense to either government or the food industry."

* * * *

Forty-six Professional Standards Review Organizations (PSROs) have been marked for termination within 90 days.

The Health Care Financing Administration (HCFA) said the closing notices were sent "due to the severely reduced budget which Congress finalized last week." Some \$28 million was chopped from the \$174 million allotment for the PSRO program.

The PSROs, threatened with an abrupt cut-off of federal funds, may appeal the decision at hearings beginning in mid-July.

The Reagan Administration has proposed phasing-out of the PSRO program over the next few years.

* * * *

Donald Frederickson, M.D., Director of the National Institutes of Health, resigned effective July 1, declaring that "it is time to shed administrative duties for a while lest I forget completely how to be a scientist and a physician."

No policy differences with the Reagan Administration, which has been tight with NIH funds, prompted the resignation, according to NIH aides. Dr. Frederickson did not say what he will be doing next.

"I take this step with great ambivalence, for NIH is in the very marrow of my bones," he wrote in a letter to Health and Human Services Secretary Richard Schweiker. The resignation was accepted by Schweiker "with profound regret."

Dr. Frederickson has headed the NIH for six years. A career Public Health Service employee, he joined the National Heart Institute in 1953.

During his tenure as head of NIH, the government's medical research branch has continued to enjoy prestige but has been forced to live with ever-smaller budget increases for its activities.



MEDICINE-RELIGION SYMPOSIUM

A symposium on Medicine and Religion will be held Saturday, October 10, from 8:45 a.m. to 5:00 p.m. in the Education II Building on the University of Arkansas Medical Sciences Campus. Sponsored annually by the Arkansas Medical Society, the University of Arkansas for Medical Sciences and the Interdenominational Executive Roundtable. The symposium's theme will be: *Physician-Minister, What We Expect From Each Other*. Principal speakers will be:

1. Dr. Carl Wenger, Little Rock surgeon. Well-known Arkansas leader in the realm of religion; in particular the Bible Church and Young Life Movement. Dr. Wenger has recently returned from a symposium with chaplains at Fort Polk.

2. Dr. Allan L. Ward, Professor of Communication at University of Arkansas at Little Rock. Dr. Ward specializes in group dynamics and has worked in areas of family communication, communication in religious organizations and interracial communication. His publication, *Seven Thousand Years in Retrospect*, outlines the connections between the religious systems of the world.

The program will consist of presentations by speakers and physician-minister, discussion groups. Some groups will focus on specific topics such as unwanted pregnancy and death while others will be free to discuss subjects stimulated by the symposium.

The only fee will be \$6.00 to cover cost of lunch and refreshments. So that costs will be no deterrent to any physician or minister, every effort has been made to provide this meeting with minimal charges.

As an organization accredited for continuing medical education, the University of Arkansas for Medical Sciences certifies that this continuing medical education offering meets the criteria for 61½ hours of Category I credit toward the Physician's Recognition Award of the American Medical Association.

Interested physicians are urged to send registration accompanied by \$6.00 to:

Department of Continuing Education
for Physicians

University of Arkansas for Medical Sciences
4301 West Markham — Slot 525

Little Rock, Arkansas 72205

Please forward registration as soon as possible so that appropriate arrangements can be made. However, late registrants will be accepted at the door.

Questions may be directed to Dr. Fred Henker, phone number 661-5266.

This meeting promises to be informative, thought provoking and an excellent opportunity for communication between these two professions so intimately covered with helping suffering humanity.

REGISTRATION FORM

MEDICINE-RELIGION SYMPOSIUM

Please register me as a participant in the 1981 Medicine-Religion Symposium.

Include \$6.00 to cover the noon meal and the refreshments.

Name _____

Street _____

City _____ State _____ Zip _____



MISSOURI STATE CHEST HOSPITAL

An extension of services provided by the Missouri State Chest Hospital to persons residing outside the state of Missouri has been announced.

The specialized hospital, located at Mount Vernon in southwest Missouri, provides in-hospital care and rehabilitation programs for chronic, obstructive pulmonary disease, emphysema, bronchitis, asthma, tuberculosis, fungus disease and allergy. Outpatient services also are available.

The Chest Hospital is an agency of the state of Missouri and is partially supported by tax funds. Residents of other states may take advantage of the hospital's services but must pay the full cost for their care.

For further information, call Roy L. Grantham, Hospital Director, State Chest Hospital, Mount Vernon, Missouri 65712; phone (417) 466-3711.



COUNCIL MINUTES
ARKANSAS MEDICAL SOCIETY

JULY 12, 1981

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, July 12, 1981, in the Camelot Inn, Little Rock. Present were Burge, Smith, Shuffield, Morgan, J. Kolb, Osborne, Hestir, P. Bell, Langston, Sanders, Harris, Joyce, Ellis, Jouett, Pearson, Wilkins, Lilly, Andrews, Saltzman, Koenig, Verser, Chudy, Bob Benafield, Milton Deneke, Jerry Mann, Mrs. Raymond Peeples, Mr. Joe Pistole, Mr. Mitchell, Mr. LaMastus, Miss Richmond, and C. C. Long.

The Council transacted business as follows:

1. Considered the experience rating report on the Blue Cross-Blue Shield group plan for Society members. Upon motion of Joyce, the Council voted to write participants in the plan advising of the necessity for a 39% rate increase and possible plan changes for reduction in premium, stating that the plan will remain as is unless those enrolled request a change.
2. Legal Counsel Mike Mitchell reported on a meeting of attorneys representing state medical societies.
3. Legal Counsel Mike Mitchell gave the Council a progress report on the law suit filed by the Nurses Association against the Society, Dr. Kutait and Dr. Weber.
4. Executive Vice President Long presented to the Council a statement of expense incurred by legal counsel from date of filing of Nurses' lawsuit to June 4, 1981. Upon motion of Smith, the Council voted approval for payment of the fee.
5. Joe Verser, delegate to AMA, reported on the recent meeting of the AMA House of Delegates.
6. Chairman Burge presented the report of the Executive Committee for approval by the Council. Councilor Ray Jouett questioned the action of the Council regarding the Arkansas Family Planning Council. Upon motion of Lilly, the Council approved the actions of the Executive Committee and voted to ask

Dr. Stewart Allen to appear before the Council to discuss his program with the Arkansas Family Planning Council.

7. Upon motion of Wilkins, the Council approved the recommendation of the Executive Committee that no winter meeting be held in 1981.
8. Upon motion of Wilkins, the Council approved the recommendation of the Executive Committee that the president-elect's in-state travel expenses be paid for meetings attended with component medical societies and other necessary meetings.
9. Chairman Burge reviewed the directive of the House of Delegates that the Council redistrict itself prior to the annual spring meeting in 1982 and a resolution from the Sebastian County Medical Society directed to the Council on this subject. Upon motion of Wilkins, the Council voted disapproval of the Sebastian County resolution. Upon motion of Lilly, the Council voted to appoint an eleven-man committee consisting of the first vice president as chairman and the ten senior councilors from each district to study councilor redistricting and report back to the Council with its recommendations. The committee consists of:
Frank Morgan, North Little Rock, Chairman
Merrill J. Osborne, Blytheville
John E. Bell, Searcy
L. J. Pat Bell, Helena
John P. Burge, Lake Village
George W. Warren, Smackover
C. Lynn Harris, Hope
Robert F. McCrary, Hot Springs
W. Ray Jouett, Little Rock
Rhys A. Williams, Harrison
Charles F. Wilkins, Russellville
10. Milton Deneke, chairman of the Public Relations Committee, presented the report of his committee on public relations projects proposed. He presented the following recommendations:
 - (1) that the Council consider adding to the headquarters office staff by July 1, 1982, an executive staff person and secretarial support for that executive for public relations work; it was estimated that the cost would be approximately \$40,000 per year;

- (2) that a lay-person award be presented each year at the annual session to a deserving individual for outstanding work in the health care field; component societies would submit nominations and the Public Relations Committee would select the individual to be honored. The cost was estimated at approximately \$800 per year;
- (3) that the Society sponsor public relations seminars for personnel in the front office of physicians. The committee proposed seven seminars conducted by the staff of the American Medical Association for locations and dates as follows:

Little Rock	September 22
Little Rock	September 23
El Dorado	September 24
Fayetteville	October 13
Fort Smith	October 14
Jonesboro	October 15
Russellville	November 14

The committee recommended that a registration fee of \$15 be charged for the seminars and that the Society underwrite the remainder of the cost (estimated at approximately \$2,860 for all seven seminars).

Upon the motion of Lilly, the Council voted:

- (1) to approve the plan for an award to a lay person;
- (2) to approve conducting the proposed two seminars in Little Rock with a \$15 registration fee and the remaining cost underwritten by the Society; if the two seminars are not well received, there be no seminars conducted in other areas, and
- (3) to ask the staff to tell the Council for future reference what help would be needed to offer clerical assistance in this area.

The Council requested that letters announcing the seminars contain a statement that the Society is paying a part of the cost for this public relations project as a benefit of membership. It was agreed that an invitation for participation in the Little Rock seminars would

go to all members of the Society, not just the central Arkansas area.

11. Upon motion of Wilkins, the Council voted to send a letter of commendation to the Arkansas Hospital Association for its public relations project of radio announcements concerning cost containment.
12. Upon the motion of Shuffield, the Council voted not to contribute to the program for the Development of Humanities at the University of Arkansas College of Medicine.
13. The Council voted to reappoint Dr. Joe Rushton to the Board of Directors of the Medical Education Foundation for Arkansas if the physician is willing to serve again in that capacity.
14. President Smith discussed the possible formation of a medicine-business coalition for the State. He proposed the appointment of an ad hoc committee to consider in what manner, if any, the Society should participate in a business-medicine coalition or a similar cost-containment project. Upon his motion, the Council voted approval of the appointment of the ad hoc committee and requested that the committee report back to the Council at the next meeting, if possible. It was agreed that the committee would be appointed by the Society president.
15. C. R. Ellis discussed the recipient "lock-in program" of the Arkansas Department of Human Services, whereby Medicaid recipients have their cards stamped "lock-in" to certain providers for a three-month period. Upon motion of Wilkins, the Council voted to go on record as indicating it does not approve of the principal of lock-in; that it is up to the individual physician to decide whether or not to participate in such a program.
16. The Council voted its approval of a revised statement of "Arkansas Medical Society Policy of Liaison with Social Services."
17. Upon motion of Wilkins, the Council approved a policy statement on advertising by physicians.

The meeting adjourned at 2:45 p.m.

/s/ John P. Burge, M.D.

John P. Burge, M.D.

Chairman of the Council

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

TWO DAYS OF INTERNAL MEDICINE

Course Director: George Ackerman, M.D., *October 2 and 3, 8:00 a.m. to 5:00 p.m.*, Shorey Building Auditorium (formerly Education I Building), UAMS. Ten and one-half hours Category I credit. Registration fee: \$100.

LASER USE IN OPHTHALMOLOGY

Presented by Richard Braley, M.D., *October 6, 12:00 noon*, Red Room, St. Joseph's Regional Health Center, Hot Springs. One hour Category I credit. No registration fee.

ETHICAL BASIS FOR MEDICAL DECISIONS

Course Director: Fred Henker, M.D., *October 10, 8:30 a.m. to 5:00 p.m.*, Education II Building, UAMS. Registration fee: \$5.

RECENT DEVELOPMENTS IN PEDIATRIC ALLERGY

Presented by Kelsy Caplinger, M.D., *October 19, 6:30 p.m.*, Memorial Hospital, North Little Rock. One hour Category I credit. No registration fee.

ORTHOPAEDICS FOR FAMILY PHYSICIANS

Course Director: Ben Saltzman, M.D., *October 24, 8:00 a.m. to 5:00 p.m.*, Education II Building, UAMS. Registration fee: \$40.

PNEUMONIAS — WHAT'S NEW IN TREATMENT AND DIAGNOSIS

Presented by Joseph Bates, M.D., Chief of Medical Services, Veterans Administration Hospital, Little Rock, and Beltina Hilman, M.D., Chief of Pediatric Pulmonary Medicine and Allergy Section, LSU Medical Center, Shreveport, Louisiana, *November 5, 4:00 p.m. to 9:00 p.m.*, Holiday Inn, I-30 and Stateline, Texarkana, Arkansas. Four hours Category I credit. Registration fee: \$15. Sponsored by AHEC Southwest.

EMERGENCY MEDICINE UPDATE

Presented by Marvin Leibovich, M.D., et al., *November 5, 8:00 a.m. to 7:00 p.m.*; *November 6, 8:00 a.m. to 6:15 p.m.*; *November 7, 8:30 a.m. to 12:15 p.m.*, Baptist Medical Center Auditorium. Nineteen and three-fourth hours Category I credit. Registration fee: \$75.

WRIST INJURIES

Presented by Edward R. Weber, M.D., *November 6, 8:00 a.m. to 5:00 p.m.*; *November 7, 8:00 a.m. to 12:45 p.m.*, Education II Building, UAMS. Eleven hours Category I credit. Registration fee: \$150.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, October 1, 15 and November 5, 19, 1:00 p.m., Conference Room.

Pathology Conference, October 20 and November 17, 3:00 p.m., Conference Room.

Mortality Conference, October 8 and November 12, 3:00 p.m., Conference Room.

HOT SPRINGS — ST. JOSEPH'S REGIONAL HEALTH CENTER

Chest Conference, second and fourth Tuesday, 12:30 p.m., Red Room.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, October 14 and November 11, 6:00 p.m. to midnight, Human Resources Development Area. Six hours Category I credit.

GI Roundup, October 7, 23 and November 4 and 18, 12:00 noon to 1:00 p.m., Conference Room #1.

Emergency Medicine Conference, October 14, 28 and November 11, 25, 12:30 p.m. to 1:30 p.m., Conference Room #1.

Morbidity and Mortality Conference, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Surgery Conference, each Thursday except first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Anesthesiology Conference, October 15 and November 19, 7:00 a.m. to 8:00 a.m., Dining Room #3.

Case of the Month, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

Central Arkansas Primary Care Conference, second Tuesday, 7:00 p.m. to 9:00 p.m., BMC Auditorium.

Pulmonary Care Conference, each Tuesday, 12:00 noon to 1:00 p.m., Conference Room #1.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category 1 of the Physician's Recognition Award of the American Medical Association.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 p.m. to 1:15 p.m., Coffee Shop Dining Room #3.
Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room #155, Education Wing.
Pediatric Conference, first Monday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.
Cardiology Conference, second and fourth Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.
Cleft Palate Conference, Wednesday, November 18, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.
Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S1169, Laboratory.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Internal Medicine Grand Rounds, each Tuesday, 8:00 p.m. to 9:00 a.m., Education I Auditorium.
Anesthesiology Complications Conference, each Tuesday, 7:00 a.m. to 8:00 a.m., Room 2E04, UAMS Hospital.
Neuroradiology Course, each Wednesday, 4:00 p.m. to 5:00 p.m., Radiology Conference Room.
Radiology Continuing Education Lecture Series, two Wednesdays each month, 6:00 p.m. to 7:30 p.m., Radiology Conference Room.
Residents Anesthesia Seminars, each Wednesday and Thursday, 3:30 p.m. to 4:30 p.m., Room 2E04, UAMS Hospital.
Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m. to 6:00 p.m., UAMS Eye Clinic.
Categorical Course in Radiology, each weekday except Wednesday, 4:15 p.m. to 5:00 p.m., Wednesday, 5:00 p.m. to 5:45 p.m., Radiology Conference Room.

LITTLE ROCK — VA MEDICAL CENTER

Pulmonary Conference, each Monday, 2:00 p.m. to 3:00 p.m., VA Hospital, Roosevelt Road, Hipp Auditorium.
Tumor Board, each Tuesday, 3:30 p.m. to 4:30 p.m., Hipp Auditorium.
Surgical Grand Rounds, each Thursday, 12:45 p.m. to 2:00 p.m., Hipp Auditorium.
Medical Pathology Conference, each Tuesday, 2:00 p.m. to 3:00 p.m., Hipp Auditorium.
Medical Lecture Series, each Wednesday, 1:00 p.m. to 3:00 p.m., VA Hospital, North Little Rock, Building 33, Main Room.

TEXARKANA — AHEC-SW

Monthly Chest Conference, October 21 and November 18, 12:30 p.m., St. Michael Hospital, Classroom B.
Monthly Tumor Conference, October 7 and November 4, 7:00 a.m., St. Michael Hospital, Classroom B.



P E R S O N A L A N D N E W S I T E M S

TWIN CITIES PHYSICIAN

Dr. Mark Robirds, a native of El Dorado, has begun practice in Helena.

MEDICAL MISSION

Two Little Rock physicians, Drs. Mike Hendren and Doug Smith, participated in a recent medical missionary effort in Pignon, Haiti. The interdenominational group worked in the Dispensary Hospital of Charity.

ROTARY PRESIDENT

Dr. James J. Pappas of Little Rock was recently installed as president of the Little Rock Rotary Club.

SILOAM SPRINGS GAINS PHYSICIAN

Dr. Dale Clemens, a native of Siloam Springs, has joined the Siloam Springs Medical Center, Ltd., for the practice of family medicine.

AHEC DIRECTOR

A Jonesboro physician, Dr. Michael Mackey, has been named director of the Northeast Area Health Education Center in Jonesboro.

RADIOLOGY FELLOW

Dr. Robert M. Tirman of Jacksonville has been selected for Fellowship in the American College of Radiology.

SON JOINS FATHER

Dr. John Charles Smith, a general surgeon, has joined his father, Dr. James Smith, in practice at Paris. He represents the third generation of the Smith family to practice in Paris.

DR. FRANCE

Dr. Gene L. France has joined Dr. Kelsy Caplinger for practice with the Little Rock Allergy Clinic, P.A., 11215 Hermitage Road.

BOSS OF THE YEAR

A Pine Bluff physician, Dr. Virgil L. Hayden, is the 1981-82 "Boss of the Year" for the DuBocage Chapter of the American Business Women's Association.

ADVISORY BOARD

Dr. George J. Fotioo, Hot Springs, has been named to serve on the newly formed Community Advisory Board for Hot Springs Savings.

PHYSICIAN LOCATES

Dr. Keith May has opened his office at the New Hope Medical Center in Gillett.

ASSOCIATION ANNOUNCED

Dr. Max Baker of Fort Smith has announced the association of Dr. Joe F. Bradley at the Baker Psychiatric Clinic.

MISSIONARY WORK

Dr. Maurice L. Stephens of Mena spent six weeks during June and July working at the Evangelical Alliance Mission (Chicago) Oasis Hospital at Air Abu Dhabi — United Arab Emirates.

Dr. David D. Fried of Mena spent five weeks during January and February working at the Nalerigu Baptist Hospital in Northern Ghana.

PHYSICIAN AND WIFE HONORED

Dr. M. A. Baltz of Pocahontas has been named a Knight of St. Gregory by the Catholic Church. He is one of three in the Little Rock Diocese to be honored with the award. Mrs. Baltz has received the church's "Pro Ecclesia et Pontifice" award.

Dr. and Mrs. Baltz were designated by Pope John Paul II to receive the high honors from the Catholic Church for special recognition of lifetimes of Christian service.

PINE BLUFF GAINS PHYSICIAN

Dr. Mike S. McFarland, an Ophthalmologist, has opened his office at 40th and Hickory in Pine Bluff.

PHYSICIAN RELOCATES

Dr. Joel P. Cook, formerly of Newport, has moved to Osceola. He is a Family Physician.

MOUNTAIN VIEW PHYSICIANS

Drs. Steve Garst and Neema Garst have opened an office for the practice of Family Medicine at the Family Medical Clinic, Church Street, Mountain View.

PHYSICIAN LOCATES

Dr. Stephen F. Collier, a native of Augusta, has opened his office in the Augusta Health Services Clinic.

BLYTHEVILLE GAINS PHYSICIAN

Dr. C. G. Melton has opened his office for the practice of Obstetrics and Gynecology in the Medical Plaza at Tenth and Highland in Blytheville.

ASSOCIATION ANNOUNCED

Drs. O. B. McCoy and Charles Klepper of Harrison have announced that Dr. Stephen L. Long has joined them for the practice of Family Medicine.

BLYTHEVILLE PHYSICIANS

Dr. Kenneth D. Sellers of Blytheville has been joined by Dr. Harvey C. Harmon for the practice of General Surgery.

AAFP OFFICERS

Dr. Jerry Mann of Arkadelphia was installed as president of the Arkansas Academy of Family Physicians at the recent annual meeting. Other officers elected were: Dr. Lee H. Parker of Fayetteville, president-elect; Dr. Robert Etherington of Eureka Springs, vice president; and Dr. Charles Rodgers of Little Rock, secretary-treasurer.



NEW MEMBERS

DR. ANGELO T. LLANA

A new member of the Ashley County Medical Society, Dr. Llana was born in Manila, Philippines.

Dr. Llana received his pre-med education at the University of Santo Tomas in Manila. He was graduated in 1957 from the Faculty of Medicine and Surgery of the University of Santo Tomas, Manila. After an internship with St. Francis Hospital in Jersey City, New Jersey, Dr. Llana did residency training with Allentown State Hospital in Allentown, Pennsylvania, and with Warren State Hospital, Warren, Pennsylvania.

From 1962 to 1963, Dr. Llana was Regional Psychiatric Director of Provincial Hospital at North Battleford, Saskatchewan, Canada, and was on the faculty of the Mental Health Institute of Independence, Iowa, as an instructor for residents and nursing students. From 1963 to 1966, he was instructor for nursing students at Provincial Hospital. Dr. Llana was Psychiatric Consultant with St. Paul-Ramsey County Medical Center, St. Paul, Minnesota, from 1970 to 1974. During the period of time from 1962 to 1979, he also practiced General Psychiatry.

Since 1979, Dr. Llana has been practicing General Medicine and Psychiatry in Lake Village and Portland. His office is in the Portland Health Care Center in Portland.

DR. EINAR PUSTROM

Dr. Pustrom is a new member of the Craighead-Poinsett County Medical Society. He was born in Tallinn, Estonia.

Dr. Pustrom was graduated from Wagner College in New York, New York, in 1953. In 1958 he was graduated from the Bowman Gray School of Medicine of Wake Forest University in Winston-Salem, North Carolina. After an internship with Upstate Medical Center Hospital in Syracuse, New York, Dr. Pustrom had his residency with the University of North Carolina School of Medicine and Public Health.

From 1962 to 1964, Dr. Pustrom served with the United States Navy. He was in private practice for twelve years in Tinton Falls, New Jersey, and in private practice for three years in Gastonia, North Carolina.

Dr. Pustrom practices Psychiatry. His office is located at 828 South Church, Jonesboro.

* * * *

Two new members have been added to the Crittenden County Medical Society:

DR. MARYLIN A. DATZMAN

Dr. Datzman was born in Lafayette, Indiana.

She attended Purdue University and Indiana University. Dr. Datzman is a 1978 graduate of the Indiana University School of Medicine, Indianapolis. Her internship and Internal Medicine residency were with St. Vincent's Hospital in Indianapolis.

Dr. Datzman specializes in Internal Medicine. She is associated with the Crittenden Primary Care Center, 228 Tyler Street, in West Memphis.

DR. KENNETH R. NADEAU

Dr. Nadeau is a native of Long Beach, California. He was graduated in 1974 from the University of California at Irvine and in 1978 from St. Louis University School of Medicine, St. Louis, Missouri. Dr. Nadeau served his internship and residency at the University of California (Davis) Affiliated Hospitals in Martinez.

Dr. Nadeau, an Internist, has his office in the Crittenden Professional Building at 228 Tyler in West Memphis.

* * * *

DR. PAUL C. WILLIAMS

The Garland County Medical Society has accepted Dr. Williams as a new member. He was born in Pas des Robles, California.

Dr. Williams was graduated from the University of Colorado in 1964. He received his M.D. from the University of Arkansas College of Medicine in 1969. Dr. Williams served his internship at the University of Arkansas College of Medicine. From 1970 to 1972, he served with the United States Navy. After military service, Dr. Williams returned to the University of Arkansas Medical Center for residency training.

Dr. Williams was in private practice for two years in Englewood, Colorado.

Dr. Williams specializes in Neurosurgery. His office is located at 225 Linden in Suite 2, Hot Springs, Arkansas.

DR. LARRY LIPSCOMB

Dr. Lipscomb was born in Camden, New Jersey. He is a new member of the Jefferson County Medical Society.

Dr. Lipscomb received his pre-med education at Louisiana State University in Baton Rouge, Louisiana. He is a 1975 graduate of Louisiana State University School of Medicine in New Orleans. His internship was with Earl K. Long Memorial Hospital in Baton Rouge. Dr. Lipscomb was also a clinical instructor during his internship. His residency training was with Duke University Medical Center in Durham, North Carolina.

Dr. Lipscomb's specialty is Orthopaedics. His office is at 1801 West 40th in Pine Bluff.

DR. DONALD F. HILL

A native of Helena, Dr. Hill is now a member of the Pope County Medical Society.

Dr. Hill is a 1974 graduate of Southwestern at

Memphis, Tennessee, and a 1978 graduate of the University of Arkansas College of Medicine. His internship and residency were at the University of Alabama Hospitals in Birmingham.

Dr. Hill's specialty is Internal Medicine. He is associated with the Millard-Henry Clinic at 3105 West Main Place in Russellville.

* * * *

The Pulaski County Medical Society has nine new members:

JAMES D. BILLIE, D.M.D., M.D.

Dr. Billie was born in Wakefield, Michigan. He is a 1969 graduate of the University of Michigan at Ann Arbor.

In 1973, he received a D.M.D. from Harvard University in Boston. After an internship with Parkland Memorial Hospital in Dallas, Dr. Billie had residency training in Oral/Maxillofacial Surgery at the same institution from 1974 to 1975.

Dr. Billie received his medical degree from the University of Texas Medical School, Houston, in 1976. From July 1976 to January 1977, he was in Plastic Surgery residency training at Peter Bent Brigham Hospital and Children's Hospital Medical Center in Boston. Dr. Billie was in the Oral/Maxillofacial Surgery residency program at Massachusetts General Hospital in Boston from January 1977 to June 1977. From 1977 to 1978, he was in General Surgery residency training at Methodist Hospital of Dallas, Texas, and from 1978 to 1981, he was a resident in Otolaryngology/Head and Neck Surgery at the University of Arkansas College of Medicine.

While in Boston, Dr. Billie was on the faculty of Harvard University in the Oral and Maxillofacial Surgery Department.

Dr. Billie practices Otolaryngology/Head and Neck Surgery. He is associated with The Ear and Nose-Throat Clinic, P.A., at 1200 Medical Towers Building in Little Rock.

DR. PATRICK R. FIELDS

Dr. Fields was born in Jonesboro and was graduated from North Little Rock High School.

In 1974, Dr. Fields received a B.A. from Baylor University in Waco, Texas. He was graduated from the University of Arkansas College of Medicine in 1978. After an internship with St. Vincent Infirmary in Little Rock, Dr. Fields was in a Family Practice residency with the University Hospital.

Dr. Fields specializes in Family Practice. His

office is in the National Old Line Building located at Woodlane and Capitol Avenue in Little Rock.

DR. THOMAS H. HOFFMANN

Dr. Hoffmann is a native of Little Rock. He was granted a B.A. by the University of Arkansas at Little Rock in 1970. In 1974, he was graduated from the University of Arkansas College of Medicine. His internship was with the University.

Dr. Hoffmann was in General Surgery residency training at Baylor University Medical Center in Dallas from 1975 to 1977 and at University of Louisville Affiliated Hospitals, Kentucky, from 1977 to 1979. From 1979 to 1981, he served a Cardiovascular Surgery residency at the University of Texas at San Antonio Teaching Hospital. He is certified in General Surgery.

Dr. Hoffmann specializes in Thoracic and Cardiovascular Surgery. He is associated with Arkansas Cardiovascular Surgery Associates, P.A., 200 Medical Towers Building in Little Rock.

DR. BRUCE L. SMITH, JR.

Dr. Smith, a native of Hot Springs, is a 1970 graduate of the University of Arkansas at Fayetteville. He is a 1974 graduate of the University of Arkansas College of Medicine. He interned at the University of Mississippi at Jackson.

Dr. Smith completed an Orthopaedic Surgery residency with the University of Southern Alabama Medical Center in Mobile in 1981.

Dr. Smith specializes in Orthopaedic Surgery at #1 St. Vincent Circle, Suite 210, in Little Rock.

DR. EDWARD H. SAER, III

Dr. Saer was born in New Orleans, Louisiana. In 1972 he was granted a B.S. from Georgetown University in Washington, D.C. He is a 1976 graduate of Tulane University School of Medicine in New Orleans.

Dr. Saer interned at the Medical College of Virginia and remained at that institution for one year of training in General Surgery. He trained in Orthopaedic Surgery at the University of Michigan Affiliate Hospitals in Ann Arbor.

Dr. Saer specializes in Orthopaedic Surgery. His office is located at #1 St. Vincent Circle, Suite 210, Little Rock.

DR. CAMPBELL K. SKOKOS

Dr. Skokos was born in Fort Smith; he was graduated in 1969 from Shattuck High School in Fari-bault, Minnesota.

NEW MEMBERS

Dr. Skokos received a B.A. from the University of Arkansas at Fayetteville. He was graduated from the University of Arkansas College of Medicine in 1977. After an internship with the University of Arkansas Medical Center, he served an Obstetrics and Gynecology residency at the University of Tennessee. He is a Junior Fellow of the American College of Obstetricians and Gynecologists.

Dr. Skokos, an Obstetrician-Gynecologist, is associated with The Woman's Clinic at 500 South University in Little Rock.

DR. ALLAN R. STOREYGARD

Dr. Storeygard is a native of Minneapolis, Minnesota.

In 1973, Dr. Storeygard was graduated from the University of Minnesota Institute of Technology with a B.S. in Chemistry. He is a 1977 graduate of the Mayo Medical School of Medicine in Rochester, Minnesota. From 1977 to 1980, he was in a Family Practice Residency program with Duke University in Durham, North Carolina.

A board certified Family Physician, Dr. Storeygard is associated with Drs. Wortham, Moore, Fewell & Tracy, P.A., at 813 Marshall in Jacksonville.

DR. RUFUS THROWER, JR.

A native of Bearden, Dr. Thrower is a 1973 graduate of the University of Arkansas at Fayetteville.

In 1977, Dr. Thrower was graduated from the University of Arkansas College of Medicine. His internship was with the State University of New York at Buffalo. Dr. Thrower's Obstetric and Gynecology residency was served with the State University of New York Affiliated Hospitals, Children's Hospital of Buffalo, Deaconess Hospital of Buffalo, and Tulane Medical Center in New Orleans, Louisiana.

Dr. Thrower's specialty is Obstetrics and Gynecology. His office is at 1306 Wright Avenue in Little Rock.

DR. GARY A. WOODS

Dr. Woods was born in Fukuoka, Japan. He is a 1968 graduate of Phillips Exeter Academy in Exeter, New Hampshire.

Dr. Woods was granted a B.S. by the Massachusetts Institute of Technology at Cambridge. He was graduated from the Harvard Medical School in Boston, Massachusetts, in 1977. His internship and Family Practice residency training

were with the University of Arkansas College of Medicine. Dr. Woods has served as an instructor in the Department of Family and Community Medicine with the same institution.

A board certified Family Physician, Dr. Woods has his office in Suite 102 of the National Old Line Building at Woodlane and Capitol in Little Rock.

* * * *

The Union County Medical Society has added three new members to its roll:

DR. JOHN J. JUCAS

Dr. Jucas was born in Germany. In 1969, he was graduated from the University of Central Arkansas in Conway and, in 1974, he was graduated from the University of Arkansas College of Medicine.

Dr. Jucas served with the United States Army from 1973 to 1981. While in the Army, he served his internship at Tripler Army Medical Center in Honolulu, Hawaii, and from 1977 to 1980 served his Dermatology residency at Brooke Army Medical Center in San Antonio.

Since May 1981, Dr. Jucas has had his office for the practice of Dermatology at 525 West Faulkner in El Dorado. He is board certified in Dermatology.

DR. RICHARD C. PILLSBURY

Dr. Pillsbury was born at Walter Reed Hospital in Washington, D.C.

In 1968, Dr. Pillsbury received a B.A. in History from Trinity University in San Antonio, Texas, and in 1969 received a B.S. in Biology from the same institution. He was graduated from the University of Texas Medical School in San Antonio in 1973. Dr. Pillsbury served in the United States Army from 1972 to 1981 and attained the rank of lieutenant colonel. He served his internship at William Beaumont Army Medical Center in El Paso and a residency at Walter Reed Army Medical Center, Washington, D.C., from 1974 to 1978. Dr. Pillsbury served as chief of the Ear, Nose and Throat Department at Fort Campbell, Kentucky, from 1978 to 1981.

Dr. Pillsbury is certified by the American Board of Otolaryngology. He specializes in Otolaryngology/Head and Neck Surgery. His office is located at 423 Thompson in El Dorado.

DR. WUU-SHYONG (WILLIAM) WU

Dr. Wu is a native of Tainan, Taiwan, Republic of China.

Dr. Wu's pre-med education was with National Taiwan University. In 1970, he was graduated from the College of Medicine of National Taiwan University, Taipei. His internship was with Barberton Citizen Hospital in Ohio and his residency was with Mount Carmel Mercy Hospital and Medical Center in Michigan. He also served a Nephrology Fellowship at West Virginia University Medical School. While in West Virginia, he served on the faculty of the University Hospital and the Veterans Administration Hospital at Morgantown, West Virginia. Dr. Wu now holds a teaching position with AHEC in El Dorado.

Dr. Wu specializes in Internal Medicine and Nephrology; he is board certified in each. His office is located at 317 Thompson in El Dorado.

* * * *

The Washington County Medical Society has accepted two new members:

DR. CRAIG BROWN

Dr. Brown, a native of Fayetteville, specializes in Ophthalmology.

Dr. Brown was graduated from the University of Arkansas at Fayetteville in 1973 and from the University of Arkansas College of Medicine in 1977. His internship was with Baptist Mission Hospital in Nalerigu, Ghana, West Africa. Dr. Brown served his Ophthalmology residency at the University of Missouri Medical Center in Columbia, Missouri.

Dr. Brown's address for his practice is Post Office Box 3058 in Fayetteville.

DR. DAVID B. DEAN

Dr. Dean was born in Houston, Texas. He is a 1960 graduate of the University of Houston and a 1964 graduate of the Baylor University College of Medicine.

After an internship with Methodist Hospital in Houston, Dr. Dean served with the United States Air Force. From 1967 to 1970, Dr. Dean did a residency with Menninger School of Psychiatry in Topeka, Kansas. Dr. Dean practiced in Topeka from 1967 to 1979 and was associated with the faculty of the Menninger School of Psychiatry from 1974 to 1979. He has been practicing in Siloam Springs since 1979.

Dr. Dean specializes in Family Practice. He is associated with the Siloam Springs Medical Center located at 304 South Maxwell.

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Intern and Resident Memberships

The Pulaski County Medical Society has two new resident members:

DR. DOUGLAS B. HORAN

Dr. Horan, a graduate of Baylor University College of Medicine in Houston, is a Dermatology resident at the University of Arkansas College of Medicine.

DR. VICTOR F. SNYDER

Dr. Snyder was graduated from the University of Oregon Medical School, Portland, in 1979. He is in the Family Practice residency program at the University of Arkansas Medical Center.



O B I T U A R Y

DR. WILLIAM O. ARNOLD

Dr. William O. Arnold was born July 29, 1907, in Prescott. He died July 24, 1981.

Dr. Arnold was a graduate of the University of Arkansas at Fayetteville and a 1932 graduate of the University of Arkansas College of Medicine. He practiced at the Arkansas Tuberculosis Sanatorium from 1934 to 1939 and from 1941 to 1944; from 1939 to 1941, he was with Holt-Krock Clinic in Fort Smith. From 1944 to 1957, Dr. Arnold was associated with Scott White Clinic in Temple, Texas, where he established the first pulmonary function laboratory in the South. (The laboratory later became the cardiopulmonary function department at the Clinic.)

Dr. Arnold, an Internist, was certified by the American Board of Internal Medicine. He had practiced in Hot Springs from November of 1958 until his retirement. He was a member of the New York Academy of Sciences, Wisdom Hall of Fame Society, St. Luke's Episcopal Church and he was a Mason. He was a life member of the Arkansas Medical Society.

Dr. Arnold is survived by his wife, Mrs. Sara Weaver Arnold.

DR. GASTON A. HEBERT

Dr. Hebert died July 27th, 1981. He was born December 3, 1899.

Dr. Hebert's pre-med education was with Notre Dame University and the University of Arkansas. He was graduated from Tulane University, Louisiana, in 1925. His postgraduate work was with the University of California in Berkeley.

A former president of Garland County Medical Society, Dr. Hebert had served as chief of staff at St. Joseph's Regional Health Center and retired as supervisor of medical services at the Hot Springs Rehabilitation Center. He practiced for over 50 years in Hot Springs. Dr. Hebert was a veteran of World Wars I and II. He was a member of St. Mary's Catholic Church and a life member of the Arkansas Medical Society.

Dr. Hebert is survived by his wife, Mrs. Velda M. Hebert, one son and one daughter.

DR. ANDERSON NETTLESHIP

Dr. Anderson Nettleship, Fayetteville, Arkansas, pathologist and educator, died July 23, 1981. He was born October 10, 1910, at Fayetteville and was educated at the University of Arkansas and at Johns Hopkins, from which he received the M.D. degree in 1935. He interned in pathology at the Cornell-New York Hospital and was a National Research Council scholar at Duke and

Vanderbilt. While at the National Cancer Institute in the early 1940's Dr. Nettleship made important contributions to cancer research, most notably the work he did with Wilton Earle: the production of neoplasia by the transformation of cells *in vitro*.

From 1947 to 1958 Dr. Nettleship was professor of pathology, and chairman of the department, at the University of Arkansas School of Medicine. He was, at the same time, also the Medical Examiner for the state of Arkansas. In 1959 he returned to his home town of Fayetteville. There he served, until 1973, as chief pathologist at the Veterans Administration Hospital and also as executive director of Antaeus Institute, a biomedical research and education facility which he founded; this latter position Dr. Nettleship continued to hold at the time of his death.

Dr. Nettleship was the author of numerous scientific articles. He was also a poet and sculptor. During his long career he was the recipient of numerous awards, among them a grant from the Markle Foundation in 1945 to study tropical diseases in Central America and, in 1971, the Hixon History of Medicine Award from the University of Kansas.

He is survived by his wife, Dr. Mae Banwell Nettleship, and three sons and two daughters.



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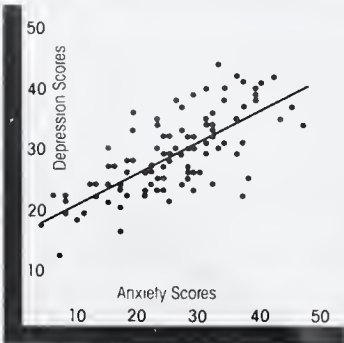
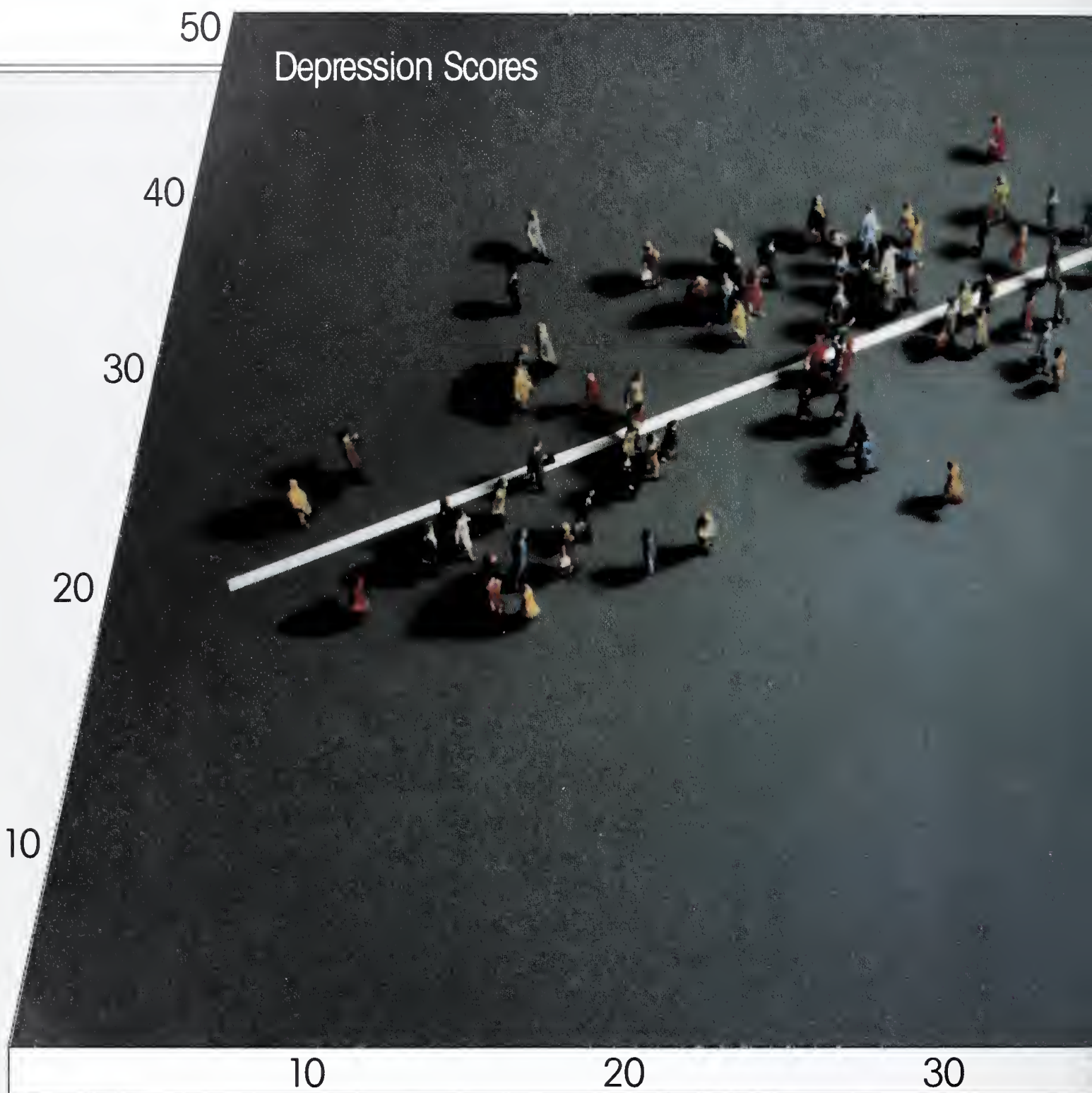
Additional information available to the profession on request.



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FOR THE 7 OF 10 NONPSYCHOTI



Clear correlation between anxiety and depression³

The above graph illustrates a relationship between anxiety and depression, indicating that patients seldom present with anxiety or depression alone; more often they have both in varying degrees. Data based on a sampling of 100 outpatients (64 male; 36 female) seen at a general psychiatric clinic.

³Adapted from Claghorn, J. The anxiety-depression syndrome. *Psychosomatics* 11:438-441, Sept-Oct 1970.

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Amputee Rehabilitation: Critical Factors in Outcome

John H. Bowker, M.D.*

INTRODUCTION

Restoration of limb function has been the keystone of amputee rehabilitation since time immemorial. Early attempts were crude and remained so for centuries. They ranged from the peg-legs depicted in the paintings of Pieter Brueghel to the cosmetic substitutes designed as part of the knight-amputee's armor to convince the enemy that he was dangerously intact. It has only been during the past thirty years, however, that major advances based on sound biomechanical studies have been achieved both in amputation surgery and body-powered prostheses. The even newer concept of myoelectrically controlled, battery-powered upper limb prostheses has now developed to the point where reliable, cosmetically acceptable hands and elbows are readily available.

The optimal application of these advances depends heavily on the knowledge, skills and attitudes of the amputation surgeon. This leads directly to a consideration of those factors which are critical to success in amputee rehabilitation. These are: selection of amputation level; quality of the amputation; timing of rehabilitation; quality of available prosthetic services and a follow-up program. Each area will be discussed in some detail.

Selection of Amputation Level

The decision regarding level selection in limb amputations seems, at first glance, to be totally related to the removal of diseased tissue. This is probably most true in ablation for primary limb malignancies not amenable to primary radio-or chemotherapy. Here, functional characteristics of the residual limb are of secondary importance to curing the disease. Also, in trauma cases, the level has often been predetermined. In cases of vascular disease and some trauma cases, however, other factors should enter into this decision. This is precisely because there may be a choice as to level of amputation. The determination of limb vascularity may be done with devices which measure systolic pressure (Doppler) or skin blood flow at

any limb level. Reliability of primary wound healing at the ninetieth percentile and above has been reported in prospective studies of vascular disease cases, with or without the complication of diabetes mellitus. Evidence of segmental arterial blockage should lead to evaluation for vascular reconstruction with the intent of allowing a more distal amputation.

The provision of the longest possible limb segment commensurate with good prosthetic function can not be overemphasized. Energy studies have shown that the above-knee amputee, walking with his prosthesis, is constantly utilizing anaerobic oxidative mechanisms, as compared to the below-knee amputee who, like the intact person, uses aerobic mechanisms. Also, major advances in the design of prostheses now allow functional, cosmetically acceptable fitting of ankle disarticulation (Syme) and knee disarticulation levels. Thus the secondary criterion of function can easily be met while meeting the traditional one of obtaining primary wound healing.

Quality of Amputation

The quality of an amputation has both attitudinal and technical aspects. Considered in a positive light, rather than as an unpleasant task associated with the failure of prior medical or surgical treatment, it becomes a reconstructive procedure, not a mere ablation of diseased tissue. The resultant residual limb should be a functional end-organ which will serve the amputee well for the rest of his life as the sensate motor for his prosthetic limb replacement.

The preservation of all possible limb length commensurate with the removal of diseased tissue and prosthetic function has a number of benefits. As mentioned above, the greater the length of the residual limb, the greater the leverage available to power the prosthesis, hence less energy expenditure, an important factor in the rehabilitation of the often older dysvascular lower limb amputee. When there is a distinct choice between a knee disarticulation and an above-knee amputa-

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tion or between an ankle disarticulation (Syme) and a below-knee amputation, respectively, the disarticulations have another advantage. Both of these stumps are end-weight-bearing with definite proprioceptive advantages since weight is borne through the femoral condyles or heel pad as before, not through the ischial tuberosity or patellar tendon, respectively.

The quality of an amputation stump will also be determined by the manner in which the various tissues are handled during surgery. Bone ends must be smoothed and properly beveled, so that the skin will not become ulcerated between sharp bone edges and the hard prosthetic socket. Muscles should be either sewn together over the end of the bone (myoplasty) or to the bone (myodesis), both to pad the bone end and to put the muscles at a functional length so as to provide maximum power to the residual limb. This is essential in upper limb amputation because muscle suture seems to result in stronger electromyographic signals, used to control myoelectric prostheses. The creation of skin-fascia-muscle flaps will preserve blood supply passing from muscle to skin. Skin should be closed without tension and, in dysvascular cases, without the aid of tissue forceps. A well-padded plaster of paris dressing, used for 10 to 14 days after below-knee amputation, will prevent a knee flexion contracture which might preclude prosthetic wear.

Timing of Rehabilitation

The rehabilitation of an amputee should begin as early as possible. In fact, if time permits, crutch/walker ambulation and general conditioning exercises may begin prior to amputation. More often, necessity demands that rehabilitation be strictly a postoperative activity. To avoid the deleterious effects of recumbency, the amputee should be out of bed the first postoperative day. Exercises to preserve or restore joint range of motion and to strengthen the remaining limbs are essential. Lower limb amputees should begin standing and walking activities within a few days of surgery.

The use of an immediate postoperative prosthesis (IPOP), fabricated by a prosthetist in the operating room, is highly desirable in the case of upper limb amputation. The amputee rapidly gains the abilities of prehensile grasp and release with the same type of terminal device and harness suspension he will have in his definitive prosthesis. IPOP remains controversial in the case of

lower limb amputation, especially in dysvascular cases, because of the possibility of wound breakdown with inadvertent early weight-bearing.

Psychological rehabilitation of the patient ideally begins preoperatively. The surgeon should try to allay anxiety by outlining his postoperative management which culminates in limb-fitting and gait training. The patient can be shown a modern prosthetic limb with an explanation of its functional attributes. The phenomenon of phantom sensation should be anticipated and thoroughly explained. Whenever possible, the surgeon should enlist the aid of a peer counselor, preferably one with a similar amputation, who will be able to discuss the problems related to being an amputee on a meaningful level. At the Arkansas Rehabilitation Institute a formalized program is being developed by the Social Service Department with the close cooperation and financial support of the American Amputee Foundation.

Quality of Prosthetic Services

The finest amputation surgery will be in vain if high quality prosthetic services are not readily available. We are fortunate in Arkansas in having several progressive, innovative prosthetic facilities regularly providing the most advanced prostheses available. A brief review of some outstanding prosthetic advances of recent years follows.

1. New laminates that provide greater strength with significantly less weight are now available for all prostheses, but are especially advantageous in prostheses for the geriatric lower limb amputee where weight is critically related to function. In a below-knee prosthesis, laminate flexibility can be varied so that the flexible upper portion will grasp the femoral condyles for suspension, while the shank is made rigid enough to support body weight.
2. The weakest functional link in the above-knee prosthesis has always been the prosthetic knee joint. It is difficult for many geriatric amputees to extend the hip with sufficient force to stabilize the conventional single axis prosthetic knee. The amputee then either resorts to an energy-wasting locked knee while walking or abandons ambulation altogether for a wheelchair. An outstanding conceptual breakthrough in prosthetic design has resulted in a multicentric knee joint with a four-bar linkage configuration which markedly improves sta-

bility for the above-knee amputee. A further advantage is its compatibility with light alloy endoskeletal construction.

3. As noted above, the prosthetic advances have made both the ankle disarticulation (Syme) and the knee disarticulation excellent options. These are much better functionally than the below-knee or above-knee levels, respectively, by virtue of weight bearing and suspension capabilities. In the case of the Syme prosthesis, lighter laminates and the use of an internal suspension sleeve result in a trimmer, stronger prosthesis than previously. The modern knee disarticulation prosthesis, by having the four-bar knee mechanism located in the shank, has eliminated both previous less-than-ideal prosthetic options; weak outside knee joints, or an in-line above-knee type knee joint resulting in an excessively long thigh portion.
4. Until very recently, patients with amputations at the hip disarticulation or hemipelvectomy levels had only two options: crutches or the Canadian prosthesis, which requires a high energy output and considerable agility, both of which are unavailable to the elderly or overweight patient. The new Haslam-Wilson prosthesis meets both objections to the Canadian prosthesis. A heavy spring at the hip level, loaded by body weight during the stance phase of gait, propels the prosthesis forward at the beginning of swing phase with little energy expenditure. This, in addition to its lightweight tubular endoskeletal construction makes its use feasible for older, nonathletic persons.
5. Perhaps the most dramatic changes have occurred in the rapidly developing field of upper limb prosthetics. Myoelectric prostheses have challenged, supplemented and, in some usages, replaced body-powered, i.e. cable-operated, prostheses. Basically these are electric prostheses, powered by a battery pack and controlled by electromyographic signals generated by the amputee. By selecting the muscles for each control function on a logical basis, the training by biofeedback methods is usually successful in a short time. In a below-elbow amputee, signals from the wrist extensor mass control opening of the myoelectric hand and those from the wrist flexor mass will close it.

Similarly, the above-elbow amputee will control myoelectric elbow flexion with the biceps and elbow extension with the triceps, using familiar neural pathways. Where these muscles are absent, as in shoulder disarticulation, the deltoid, the pectorals and the trapezius are other possible muscles for control sites, but the amputee will require more intensive biofeedback training. Development of these prostheses has progressed to the point where several manufacturers now offer reliable, cosmetically acceptable components. Hybrid systems, in which an above-elbow amputee might be fitted with a myoelectric elbow and a body-powered hook are also useful. The Myoelectric Limb Laboratory at the Arkansas Rehabilitation Institute provides a setting where a well qualified team of ARI occupational therapists and community-based prosthetists will assist the referring surgeon in the best possible myoelectric fitting of their patient. This laboratory was equipped with a grant from the American Amputee Foundation.

The Follow-Up Program

Follow-up care for an amputee should be lifelong and on a regular basis. Too often the patient is dismissed after the fitting of his first prosthesis with the admonition to return if any problems occur. During the first eighteen months, multiple difficulties usually arise. They include: loss of fit due to stump shrinkage; stump injury from loss of fit; mechanical problems with the prosthesis, and development of abnormal gait patterns from a variety of causes. Thereafter, wearing out or breakage of prosthetic components can be added to the list. In addition, most diabetic amputees will have a problem with the remaining foot requiring treatment within three to five years of their primary amputation. Education and preventive foot care for diabetic unilateral amputees can thus be of great value in preventing additional disability. The anticipation and solution of problems at regular visits to the prosthetic team every six months will thus effectively prevent loss of prosthetic function and possibly even loss of the remaining limb.

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Ruptured Mycotic Aneurysm of the Inferior Pancreaticoduodenal Artery

Hon K. Poon, M.D.*

ABSTRACT

Visceral aneurysms, except those involving the splenic and renal arteries, are relatively rare. They may also involve the hepatic, superior mesenteric, celiac, gastroepiploic and gastric, pancreaticoduodenal, gastroduodenal, ileal, jejunal and colic arteries in descending frequency. Up to the past decade, only 21 cases of pancreaticoduodenal aneurysm, 8 cases of gastroduodenal and together 7 cases of ileal, jejunal and colic aneurysms were reported in the English literature. The following presentation involves a 75-year-old white man who developed hemorrhagic shock from an obscure origin while being managed for progressive colonic obstruction from a sigmoid carcinoma. No angiographic studies were carried out preoperatively and during emergency exploratory laparotomy a ruptured aneurysm of the inferior pancreaticoduodenal artery was found. The patient ultimately exsanguinated. On autopsy the aneurysm was found to be mycotic. The author feels that a high index of suspicion, preoperative and/or intraoperative angiographic studies would greatly facilitate the diagnosis as well as approach of management of such lesions.

CASE PRESENTATION

A 75-year-old white man was seen in the emergency room with diffuse abdominal pain, progressive abdominal distention and obstipation for one week's duration. His abdomen was markedly distended and tympanitic. The rectum was empty. There was no heart murmur or abdominal bruit. There was an incarcerated right inguinal hernia. Plain films of the abdomen showed evidence of colonic obstruction. No abnormal calcifications were seen in the abdomen. Barium enema showed a portion of the sigmoid incarcerated into the right scrotum but this was not the point of obstruction. The barium was found passing through the incarcerated loop in and out of the scrotal sac proximal to which it was then abruptly blocked off by an intraluminal mass, then thought to represent an obstructing carcino-

ma. After the barium enema the patient had a big bowel movement and the abdomen was decompressed and soft. 12 hours after admission the patient suddenly collapsed. The blood pressure dropped to 60/0mmHg. An EKG done then showed no evidence of myocardial infarction. CXR was unremarkable. There was no widening of the mediastinum. However, over the following several hours the Hgb was found to have dropped from an admission level of 14.5gm% to 10.9gm% and then 8.5gm%. Despite rapid infusion of crystalloid and blood intravenously the patient remained hypotensive. There was no blood found in the stomach or the rectum. Over the several hours following the initial hypotensive episode, the patient was found to have developed a progressively increasing precordial holosystolic murmur which did not radiate to the neck or axillae. The abdomen had become more distended, tense and tympanitic. X-ray showed multiple dilated air-and-fluid filled small and large bowels. No pulsating mass was palpated. No abdominal, carotid, axillary or femoral bruits were heard. The femoral and radial pulses, though faint, were palpable and equal bilaterally. Because of the tensely distended abdomen and obvious evidence of hemorrhagic shock, exploratory laparotomy was performed. There was no free blood in the peritoneal cavity. The patient indeed had an obstructing sigmoid carcinoma and the cecum was at the verge of rupture. Decompression was done through a transverse colotomy. Further exploration showed a bulging but non-pulsatile retroperitoneal mass which was arising from the region of the head of the pancreas. A thrill was felt over this mass and on the aorta proximally but not palpable below this level. The abdominal aorta was normal with no aneurysm. On opening the retroperitoneum the mass was found to be a large hematoma. Because no definite bleeding point was identified and no active bleeding was evident while the patient's blood pressure rose to 130/70mmHg with transfusion and fluid replacement, the abdomen was closed after exteriorizing the transverse colostomy. Postoperatively in the recovery room the patient

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had another profound hypotensive episode and expired.

Autopsy showed several liters of blood in the free peritoneal cavity. A ruptured aneurysm of the inferior posterior pancreaticoduodenal artery was identified as the source of hemorrhage. The patient also had an obstructing carcinoma of the sigmoid colon. Histopathological studies showed the aneurysm to be mycotic.

DISCUSSION

Marks and Freeland reported 3 cases of spontaneous intraabdominal hemorrhage in 1945 in which 2 cases were described as having a large hematoma at the head of the pancreas while no definite bleeding points were identified.¹ These cases, although not clearly proven, might well be ruptured aneurysms of the gastroduodenal or pancreaticoduodenal arteries, vascular lesions that are rare in occurrence and usually remain asymptomatic until the time of rupture and the patient would present with various clinical pictures from abdominal pain to hemorrhagic shock. Ferguson probably reported the first case of pancreaticoduodenal aneurysm in 1895.²

In the eighty some years that followed, up to 1977, only 21 cases were reported in the English literature. (Table 1.) There is a sex predilection with a male to female ratio of about 6:1. In Detering's extensive review³ he found that the average age affected was 55 years and almost all cases are associated with arteriosclerosis. As in other splanchnic vessel aneurysms, most of these cases are diagnosed at postmortem examination. McCorriston has estimated that 80% of patients with splanchnic aneurysms first seek medical attention at the time of rupture. A few are found incidentally either during surgery or at autopsy. A minority are diagnosed pre-operatively before rupture.⁴

Patients with pancreaticoduodenal aneurysms often present, if symptomatic, with nonspecific RUQ abdominal pain. It is believed that some symptoms precede frank rupture in nearly every case. A clinical triad of diffuse abdominal pain, obstructive jaundice and upper GI bleeding, if present, is suggestive.³ However, when ruptured, bleeding is most commonly into the retroperi-

Summary of Reported Cases of Pancreaticoduodenal Artery Aneurysms in the English Literature

Author & Year	Sex	Chief Symptoms	Cause of Aneurysm	Outcome
Ferguson, 1895 (2)	M	Abdominal pain	Not stated	Death
Shallow et al, 1946 (12)	M	Epigastric pain	Congenital	Death
Sampsel et al, 1952 (15)	M	Chr intermittent jaundice	Atherosclerosis	Death
Hendrick, 1952 (16)	M	Recurrent gallbladder-like symptoms	Not stated	Survival
Catanzaro et al, 1957 (17)	F	Epigastric pain	Not stated	Survival
Lambert et al, 1960 (18)				
Kelley et al, 1964 (19)	F	RUQ pain	Atherosclerosis	Survival
Lannik & Ruskin 1965 (2)	M	Abdominal pain	Atherosclerosis	Survival
Blair & Yeager, 1966 (6)	M	G I Bleeding	Atherosclerosis	Survival
Carter & Gosney, 1966 (20)	M	Abdominal pain	Not stated	Survival
West et al, 1967 (5)	M	G I Bleeding	Trauma	Death
West et al, 1967 (5)	M	Severe Chr. Anemia	Atherosclerosis	Death
Stanley et al, 1970 (7)	F	Atherosclerosis	Atherosclerosis	Death
Detering, 1971 (3)	M	Not stated	Atherosclerosis	Survival
Detering, 1971 (3)	M	Jaundice	Atherosclerosis	Survival
Douglas et al, 1971 (22)	M	Abdominal pain, G I Bleeding	Not stated	Survival
Spanos et al, 1974 (1)	M	Abdominal pain	Not stated	Survival
Verta et al, 1977 (9)	M	Abdominal pain	Atherosclerosis	Death
Verta et al, 1977 (9)	M	Abdominal pain	Atherosclerosis	Death
Verta et al, 1977 (9)	F	Abdominal pain	Atherosclerosis	Survival
Verta et al, 1977 (9)	M	Epigastric pain	Atherosclerosis	Survival
Author 1979	M	Asymptomatic till time of rupture	Mycotic	Death

toneal space or the free peritoneal cavity rather than the GI tract; although bleeding into the pancreatic duct⁵ and secondary to a penetrating ulcer⁶ have been reported. Stanley et al⁷ and West et al⁵ believe that 60% of all cases of pancreaticoduodenal aneurysms manifest themselves with bleeding into one of these 3 sites.

Before rupture takes place, the diagnosis is difficult because of lack of specific symptoms. Even after rupture, a high index of suspicion is needed. A plain film of the abdomen may be revealing if the aneurysm contains calcium but does not permit definite diagnosis. It seems that angiography is the sole reliable diagnostic means, and should be done in those cases in which significant time exists for a properly done selective study. According to Retzlaff et al,⁸ exploratory laparotomy for GI bleeding of obscure origin reveals the site of bleeding only 30% of the time. Verta et al⁹ state that selective celiac or superior mesenteric angiography should be done in patients with pain, hemorrhage and shock, the origin of which is not detectable by conventional means.

It is evident from available data of all reported cases that the underlying etiology for splanchnic aneurysms is atherosclerosis. However, some believe that there is a congenital defect involved. Nevin and Williams reported 2 cases of congenital cerebral aneurysms together with an intraabdominal hemorrhage—one from a ruptured splenic artery aneurysm and one with no definite bleeding point. Both cases were associated with developmental defects in the tunica media of the mesenteric arteries. They concluded that as with cerebral aneurysms, the splanchnic aneurysms might be congenital in etiology.¹¹ This view is shared by Shallow et al who were able to demonstrate apparent failure of fusion of the media and adventitia of the arterial bifurcations of visceral aneurysms. They believe the finding to be similar to that seen in intracranial berry aneurysms, which is regarded congenital in nature.¹² Still, others believe that the cause is obscure. Spanos et al reasoned that typically these aneurysms do not involve arterial bifurcations and no histologic defect of the vascular wall can be found, hence they are probably not congenital in origin.¹⁰ The problem of the matter is, as noted by Stanley et al,⁷ in aneurysms of longstanding, arteriosclerosis will invariably obscure any pre-existing disorder such as congenital defect or medial degenerative

process, making it impossible or difficult to differentiate the pathogenesis from the histopathologic appearance of these lesions.

Management of a ruptured pancreaticoduodenal aneurysm is straightforward. As these patients usually present with hypovolemia, volume replacement during preparation for definitive surgery is important. The aneurysm is either resected or the feeding vessels ligated. The first successful resection was probably done by Van Ouwerkerk in 1951.¹³ Radical pancreaticoduodenectomy is sometimes done.

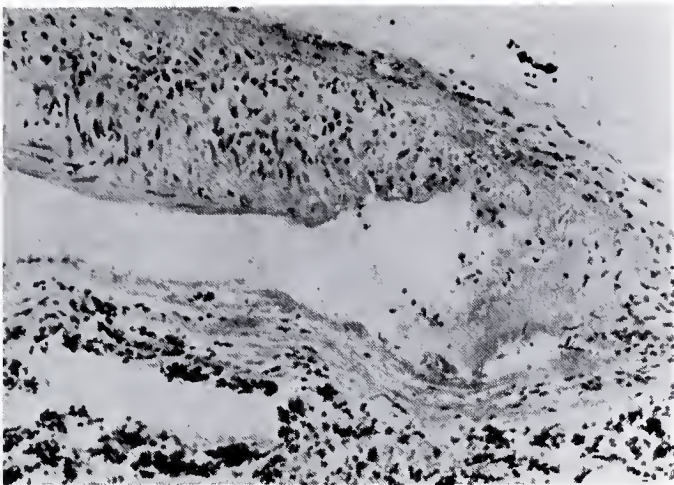
Knowledge of the presence and location of the aneurysm and its feeding vessels is important. Therefore, a positive preoperative diagnosis with angiography greatly increases the chance of success. Hand push intraoperative arteriograms may sometimes be necessary to localize the lesion. In the reported cases the average operative mortality of ruptured pancreaticoduodenal aneurysms is about 50%. However, in the recent years this has improved due to more aggressive preoperative resuscitation, more aggressive surgical intervention including radical resection of adjacent perianeurysmal structures and, most significant of all, an increase in the use of selective visceral angiography in localization of the lesion.

Asymptomatic aneurysms, as with other splanchnic aneurysms, should be followed carefully. When they expand to a diameter 3-4 times larger than the original vessels, they should be resected or ligated. The risk of rupture and massive bleeding is otherwise too great.¹⁰

AUTHOR'S COMMENT ON THE CASE PRESENTATION

- 1) The above presented case is very special from the point of histopathology. The aneurysm was found to be mycotic. Microsection of the wall of the aneurysm showed, in addition to medial degeneration and destruction of the vessel wall, massive polymorphonuclear infiltration which is indicative of its septic nature. (Fig. 1) The patient has no history of congenital cardiac valvular disease. He has no fever on admission and unfortunately no blood cultures were taken. However, the patient presented with colonic obstruction and massive dilatation of the bowel which might be the origin of his septicemia.

A search of the English literature revealed



Histopathology of the aneurysmal wall.

that no mycotic pancreaticoduodenal aneurysm has ever been presented. All cases presented before were considered to be atherosclerotic or congenital in origin. Traumatic aneurysms, however, have been encountered.⁵ In Detering's review, he found 2 mycotic aneurysms, one involving the splenic and right hepatic arteries in a 44-year-old female and another involving the superior mesenteric artery in a 9-year-old female with subacute bacterial endocarditis.³

2) The present case represents almost a typical picture of a ruptured visceral aneurysm with hemorrhagic shock. The bleeding is obscure in origin as investigated by conventional means. The hint lay in sudden cardiovascular collapse, evidence of massive blood loss, other negative findings and the sudden onset of a loud systolic murmur. The sigmoid carcinoma with its complications was a red herring. An aortogram or selective angiogram would probably have made the definite diagnosis. Sweetman and Weinstein¹⁴ have proposed definite criteria for using angiography:

- a) The occurrence of pain, hemorrhage and jaundice for which the origin has not been found by conventional workup.
- b) The presence on roentgenogram of calcium in the abdomen suggestive of an aneurysm.
- c) The presence of an unexplained bruit or mass.

Should an angiogram have been done in this case the approach and outcome might have been different. The author feels compulsory, therefore, to stress the points of a high index of suspicion and the importance of angiographic study.

3) On exploratory laparotomy the author was faced with a retroperitoneal hematoma representing a possible ruptured visceral aneurysm but without the benefit of localization by an angiogram. Facilities for intraoperative hand push angiography were then not available. Because of no active bleeding the abdomen was closed. This was not undone before as Spanos et al¹⁰ reported a case whereupon exploration the patient was found to have a large retroperitoneal hematoma but no active bleeding site. The abdomen was closed and a delayed arteriogram showed a 1-cm aneurysm of the inferior pancreaticoduodenal artery. Selective ligation of the feeding vessels was done aided by intraoperative hand push arteriography with good results. Unfortunately our patient exsanguinated in the recovery room.

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Dr. P. O. Hooper — Father of Arkansas Medicine

Fred O. Henker, M.D., and Jeanette J. Shorey, M.D.*

Throughout history when there has been a great need among any segment of the human race there has been a leader from somewhere among the masses who has risen to meet the challenge. Such was the case in Arkansas medicine in the mid 1800's—an amorphous assortment of healers of mixed qualifications, intentions and scruples—and the deliverer was Philo Oliver Hooper.

Dr. Hooper came from a staunch family of early settlers. His father, Alanson Hooper was born in Massachusetts in 1787 and after reaching manhood moved to Louisiana, where he married Miss Magdaline Perry, a native of that state. In 1829 they moved to Little Rock, Arkansas, where their son and only child, Philo Oliver, was born October 11, 1833.¹ Without any of the advantages of wealth or influence to aid him, he developed an amiable character of such sterling worth as to acquire the goodwill of the whole community. His father died at age 63 in 1850, and upon his mother fell the stern duty of rearing, providing for and guiding the son. After completing the scant education available locally, he first entered

business at the age of 16 as deputy in the post-office. After a few years of hard work and frugal living he pursued his literary education at Nashville University in Nashville, Tennessee. Returning home he secured the chief clerkship in the drug establishment of Dr. William W. Adams. At the same time he began the study of medicine under the tutelage of Dr. Lorenzo Gibson, Sr., which he pursued with great diligence and success. As soon as practical he continued his study at Jefferson Medical College, Philadelphia, Pennsylvania, graduating in 1856. Immediately, he was admitted to full partnership with his mentor, Dr. Gibson, and rapidly won acclaim among his professional associates and the citizens of Little Rock and throughout the state of Arkansas.² From that time, for the next half century, whenever anything significant happened in Arkansas Medicine, P. O. Hooper was there.

On November 3, 1859, the eminent young Dr. Hooper married Georgia Carroll, native of Alabama, daughter of Col. G. R. Carroll, at the residence of the bride in Conway County, Arkansas.³ This union was blessed with three sons and two daughters: Katie, Bernia, Perry, Philo and George. The family was held in high esteem by the community as evidenced by the naming of the riverboat Katie Hooper after the daughter in 1877.⁴ Dr. Hooper showed approval of secret societies by joining the Masons and I.O.O.F.¹

At the outbreak of the Civil War, Dr. Hooper left his family and practice and entered Confederate service in April 1861. Here his leadership ability became evident and grew. He became medical director of the department of Indian Territory, on the staff of General Albert Pike, with the rank of major. In this capacity he was stationed at Fort Gibson, until just after the battle of Elkhorn Tavern when he was ordered by General VanDorn to Memphis. After a short service in the military hospitals of that place he was ordered to Little Rock by General John S. Roane who commanded the Arkansas department. It became his duty to gather up all medical supplies in the area and remove them to Washington, Arkansas, where he remained until called back to Little Rock in 1862 by General Hindman and assigned to duty on the Confederate medical board for the examination of applicants for

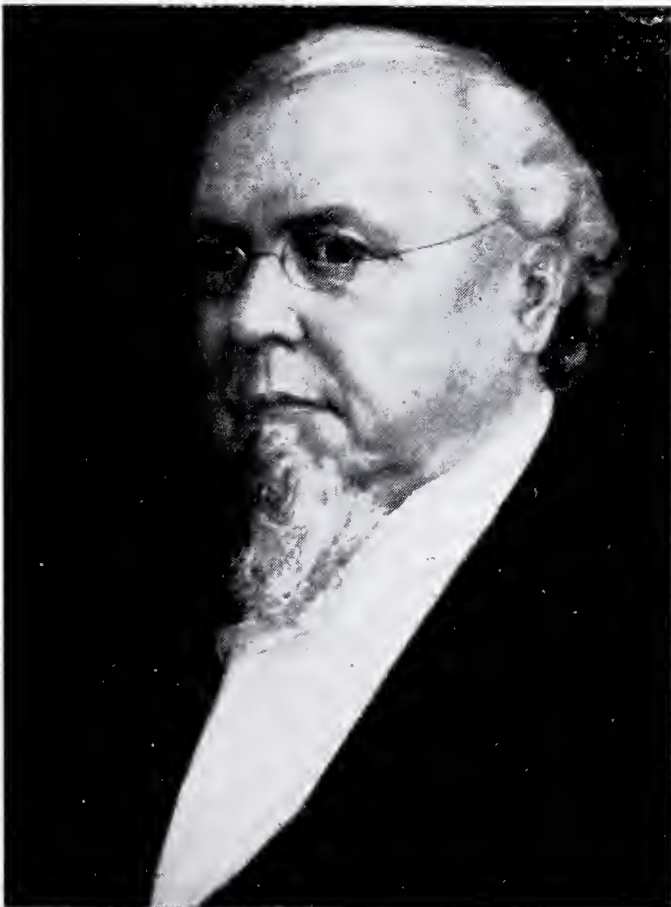


Figure 1.

Philo Oliver Hooper 1833-1902, first Dean of University of Arkansas Medical School, developer of Arkansas State Hospital.

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appointments in the medical service in the Trans-Mississippi department. Soon after his appointment to this board he was made president, continuing in this capacity at locations in Arkansas, Texas, Louisiana and the Indian Territory until the end of the war, having been under fire at Greenwood and Pleasant Hill, Louisiana. He surrendered at Alexandria, Louisiana, just before the capitulation at Shreveport in 1865.⁵ That fall he resumed his practice in Little Rock in association with Dr. A. L. Breysacher.²

Simply practicing medicine, for which he was highly renowned, was not enough for Dr. Hooper. He was concerned about the general welfare of the people of his community, many of whom were receiving inferior care from eclectic and homeopathic healers who were forming professional organizations, publishing journals and establishing colleges so that a confusing situation existed for many lower educated persons. Thus, to protect them from vegetable or drugless therapies and expose heretics, he and twelve other physicians organized the Little Rock and Pulaski County Medical Society in January 1866. Unfortunately, bad luck fell upon the leadership of the fledgling society. The first president, Dr. A. W. Webb, was murdered along with his son the night of June 13, 1866, whereupon Dr. Lorenzo Gibson assumed the office only to die three months later. He was followed by Dr. James A. Dibrell, Sr., who very soon chose to move to Van Buren, whereupon the then 22 members of the society elected the 34-year-old Dr. P. O. Hooper president. Under his leadership they flourished and by November 21, 1870, the members had invited interested physicians to a meeting held at Little Rock's Pacific Hotel to form a state organization. Dr. Hooper, considered the most influential physician politician of his generation, was chosen to deliver the welcoming address. With little hesitation the delegates formed The Arkansas State Medical Association with Dr. Hooper as first president.⁶

The next incident, involving the county and state societies and Dr. Hooper, demonstrates his fervent stand for whatever he considered right and his rugged tenacity. It all began in April, 1872, when Dr. Claibourne Watkins proposed Dr. Almon Brooks of Hot Springs for membership in the Little Rock and Pulaski County Society. A division arose among the members concerning his desirability in view of certain questionable practices which Dr. Hooper sought to correct by pro-

posing that the application be disapproved for want of jurisdiction since Brooks lived outside of Pulaski County. This was not satisfactory and the dispute lingered. On June 4 a special meeting was called, attended by Brooks supporters and Dr. Hooper and his partner, Dr. Breysacher. With the latter two abstaining, they quickly voted unanimously in favor of Brooks' application as well as a resolution praising his professional ability. This was a stinging blow to Dr. Hooper and his supporters. Dr. Brooks, seemingly content to leave well enough alone, did not push his advantage and with nine other physicians organized the Hot Springs County Medical Society. At the next meeting of the state association, Dr. Hooper's faction saw to it that the credentials committee rejected the petition of the Brooks group for recognition; furthermore, Dr. Hooper and seven associates filed protests objecting to the June 4 called meeting and Brooks' approval. There followed a battle of published statements and eventually the withdrawal of the Brooks opponents from the county society to form their own, though smaller, association, the College of Physicians and Surgeons of Little Rock, with P. O. Hooper as its guiding light. Meanwhile, at the state level contention was fierce. In spite of a report to the contrary by a committee named by Dr. D. A. Linthicum of Helena, a close friend of Dr. Hooper's, Brooks was not only admitted to the association but elected second vice-president. Dr. Hooper and numerous associates withdrew. In an attempt to gain outside assistance in the formation of a new state society Dr. Hooper and a colleague brought the matter to the floor of the A.M.A. convention in Louisville, Kentucky, in May 1875 and on October 13 met with delegates from at least twelve counties to form the State Medical Society of Arkansas. Dr. Hooper did not accept an office but his partner, Dr. Breysacher, was elected treasurer. After all of this strife, Brooks was expelled at the 1875 convention and he moved to Chicago. The following year the State Medical Society was recognized by the A.M.A.⁶ Hooper had triumphed at last. He expanded his activities to the national level even to election to vice presidency of the American Medical Association in 1882 in which capacity he presided over its national meeting in St. Paul, Minnesota, in 1883, the only Arkansan to have done so.⁷

In addition to his medical society activities, Dr.

Hooper was instrumental in the establishment of a medical school in Arkansas. Early talks had occurred between Little Rock physicians and the staff of St. John's College, an institution of higher learning opened by the Masonic order on Tenth Street between McGowan and Welsh, relative to the creation of a medical department. Although there was interest, action was hampered by political unrest and fragmentation of the medical community by the Almon Brooks issue. Finally, in March 1879, Leo Baier, president of St. John's, asked Dr. Hooper and his associates in the College of Physicians and Surgeons to assume responsibility for organizing and conducting the medical school. Receiving enthusiastic agreement he proceeded to meet with the rival Little Rock and Pulaski County Medical Society requesting their cooperation. They consented and on April 4 a planning meeting was held chaired by Hooper's associate, Dr. Edwin Bentley, a United States Army Surgeon stationed at the Little Rock Barracks. The medical school was now conceived but for some reason the affiliation with St. John's College was dropped. In May 1879 Dr. Hooper entered into correspondence with General D. H. Hill, president of Arkansas Industrial University at Fayetteville, relative to the establishment of a private medical department under the school's charter. Hill made the recommendation to the trustees and on June 17, 1879, they enacted a resolution that such a branch be established immediately in Little Rock, free of charge and expense, with P. O. Hooper as principal. He quickly assembled a faculty comprising James A. Dibrell, Professor of Anatomy; Edwin Bentley, Professor of Surgery; R. G. Jennings, Professor of Surgery; J. J. McAlmont, Professor of Materia Medica and Therapeutics; James H. Southall, Professor of Medicine; A. L. Breysacher, Professor of Obstetrics and diseases of children, and Clairborne Watkins, Professor of Chemistry and Toxicology, with himself as Dean and Professor of Principles and Practice of Medicine. In August they acquired the Sperindio Hotel, a three story building at 113 West Second Street, for \$5,000 as a site for the school. On September 26, 1879, "The Arkansas Industrial University, Medical Department," was incorporated under the laws of the state with capital stock of \$5,000 divided into 200 shares. Dr. Hooper and his seven associates were named as incorporators, each subscribing to 25 shares. The first session opened October 7, 1879

with six students. Happily 16 others joined the class over the next few weeks. At the first commencement exercise, March 2, 1880, President Hooper conferred one M.D. degree upon Tom M. Pinson, a transfer from another medical school. The diploma did not arrive in time so Dr. Hooper rolled his own and presented it temporarily. He presided as dean until he resigned to become superintendent of the lunatic asylum in 1885 and thereafter remained as emeritus professor and lectured on Principles and Practice of Medicine until his death in 1902.⁶

Another high level concern of Dr. Hooper's was the care of the mentally ill, toward which he devoted much attention and study, acquiring a distinguished reputation in the field. Consequently, he was a respected member of the American Medico-Psychological Association and the New York Medico-Legal Society. The latter association was due to the emphasis placed at the time upon the legal aspects of mental illness. He recognized the sad plight of the mentally ill in Arkansas, many of whom were incarcerated in jails or left to roam aimlessly about the countryside with no consistent supply of food, clothing or shelter. Desiring a suitable institution, as all but two other states had created by that time, he wrote hundreds of letters all over Arkansas crystalizing sentiment in favor of its establishment. In 1873 the legislature appropriated \$50,000 for the purchase of land and erection of a building. Unfortunately, political turmoil and lack of funds halted the project after the acquisition of a site, an imposing and spacious elevation three miles west of Little Rock. Undaunted, Dr. Hooper continued his thrust. In 1876 he toured several eastern states inspecting insane asylums and returned with specific recommendations for a structure to be built at a cost of \$150,000. The campaign continued. Finally in 1881 Governor Thomas J. Churchill approved a bill levying a one-mill state property tax for two years to provide an estimated \$150,000 for construction, furnishing and operating the Arkansas Lunatic Asylum. Furthermore, he appointed Dr. Hooper president of the board composed of Thomas R. Welch, John G. Fletcher, John W. Slayton and J. M. Hudson to oversee the construction, the equipping and eventually the operation of the institution. When completed in late 1882, the building was the finest of its kind, a handsome four-storied brick structure with central adminis-

tration section facing east and wings extending to the north and south for housing female and male patients respectively.⁸ Dr. C. C. Forbes was secured as first superintendent and upon his resignation in 1886 Dr. Hooper himself was elevated to the post, holding it until 1893 when he resigned and spent a year in California. Then in January 1897 the superintendency again became vacant and he was called upon to resume the duties of the position; which he did, directing the institution in his usual highly efficient manner until forced to retire due to ill health a few weeks before his death at the age of 68 in 1902.²

The years had taken their toll from this professional giant. His son Philo, not mentioned in his will, had presumably died, as had his mother in 1877.¹ His compulsive driven nature together with his corpulent stature, as revealed in all of his pictures, must have predisposed him to cardiovascular pathology. Possibly the 1893 resignation from the asylum (and the year in California) was occasioned by illness. He evidently rallied but then in March 1902 his beloved wife, Georgie, died. As is so often the case, the trend turned downward. For some time friends saw that he appeared weary and tired of the strain of applying himself too diligently to his exacting duties at the asylum. They urged him to retire, which he did effective July 1. A short time later he became ill with "acute indigestion" complicated by "asthmatic troubles." Thinking that a vacation in California would benefit him, he left by train July 28 accompanied by his daughter Katie and son Perry. On the morning of July 29, 1902, he died, as the train passed through Sayre, Oklahoma, supposedly from asthma. The body was returned to Little Rock and buried in Mt. Holly cemetery from Christ Episcopal Church.²

Such a benefactor could not go unremembered.



Figure 2.

Tomb of Dr. and Mrs. P. O. Hooper in Mt. Holly Cemetery, Little Rock, Arkansas.



HOOPER DRIVE

Figure 3.

Hooper Drive running between two great institutions—University of Arkansas for Medical Sciences and Arkansas State Hospital—owing their origin to Dr. P. O. Hooper.

It was most appropriate that the street passing between the two great institutions, the University of Arkansas for Medical Sciences and the Arkansas State Hospital, owing their origins to the effort and dedication of one of the greatest of the great men from Arkansas, was named "Hooper Drive."⁹

Why did Philo Hooper make such an enormous contribution to the development of his state? He was present with the qualities needed at a time when the qualities he had were needed. An above average capacity for knowledge was largely hereditary, his industry and diligence were molded in his personality through early associations, along with his ability to win and maintain friendships which was probably his most effective trait. This is succinctly conveyed in the last line of his obituary penned by William E. Woodruff—"After all, it was as a man that the closest tendrils of memory reach out to hold him to those who knew him best through childhood, boyhood and manhood. We may never look upon his like again."²

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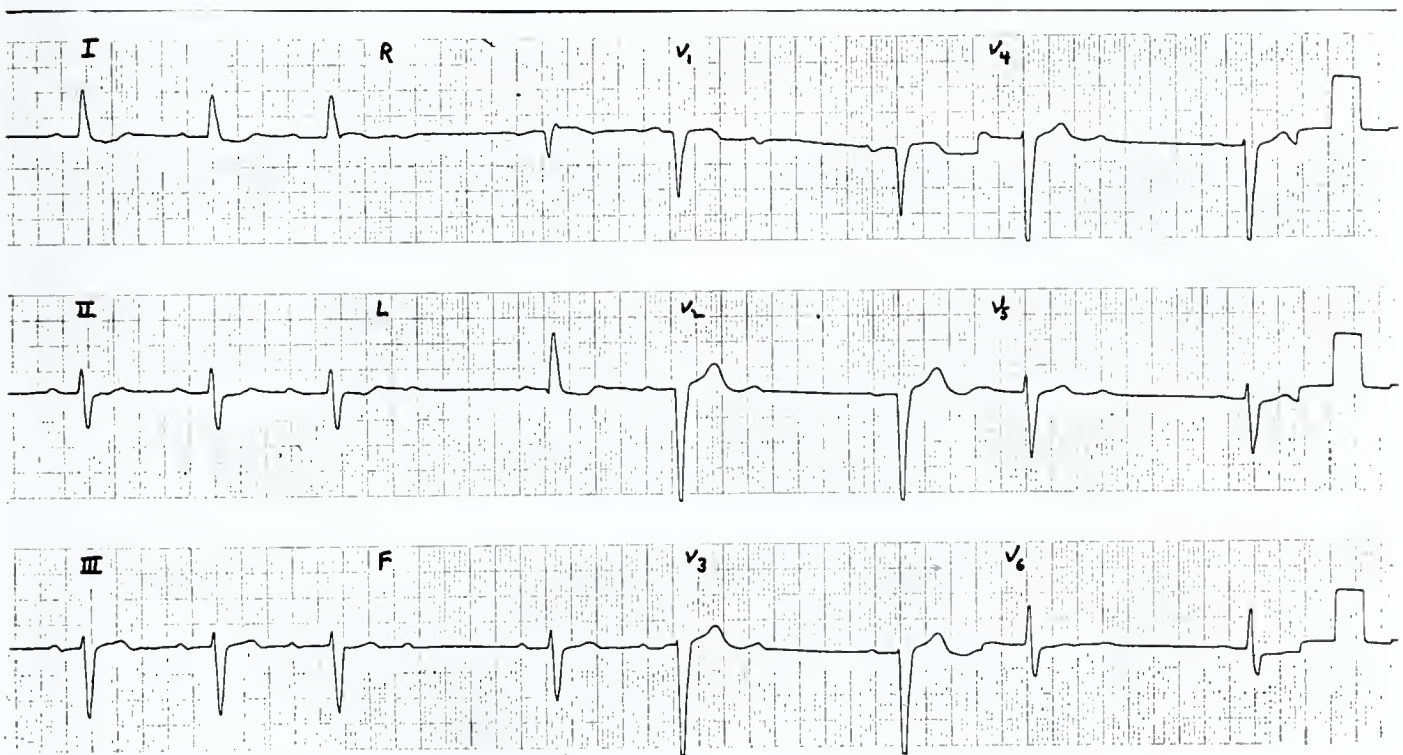


The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 199)

HISTORY: E. G. is a 69-year-old lady with a history of congestive heart failure treated with digoxin. Recently, she has experienced visual disturbances, nausea, and worsening symptoms of congestive failure. Her physical examination revealed a regular irregularity of her cardiac rhythm and rales. Her ECG is depicted below. Based upon her presentation and her ECG, her physician most likely would do which of the following:

- A. Double her digoxin dose
- B. Position a temporary pacemaker
- C. Order digoxin antibodies
- D. Stop her digoxin



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EDITORIAL

Carl L. Nelson, M.D.*

This year, designated as the International Year of Disabled Persons, has special meaning and hope for the 450 million disabled persons in the world, including 35 million in the United States. The U. S. Council on the International Year has pledged to promote the full participation of disabled Americans in the life of our society and to strengthen public understanding of the still unmet needs and potential contributions of these 35 million citizens. Arkansans have a unique problem that is not appreciated; Arkansas has the nation's highest per capita prevalence of disability at 13.6% and, therefore, has a need to direct attention and resources to this neglected problem area.

A key process in dealing with a problem is to recognize its presence, significance and scope and for the physician to be aware of the advancements and facilities that are presently available. Utilization and further development of modern tech-

niques and facilities will enhance and be commensurate with the theme of the International Year and the goals of the disabled persons: (1) Freedom of life (provision of required medical services); (2) Freedom of movement (a barrier-free environment); (3) Freedom to learn (access to schools); (4) Freedom to work (affirmative employment action); and (5) Freedom of independent living (adequate barrier-free housing and transportation).

A series of articles in this *Journal* will be directed toward better understanding of disabled persons and modern medicine's ability to deal with the problem. It is imperative that we understand and direct our attention to this area since it comprises one of the largest and most costly areas that must be dealt with. The same skill and expertise by which modern medicine has dealt with the problems of acute illness should be used here. The first in a series of articles is an in-depth review of the critical factors affecting restoration of limb function following amputation. The article begins on page 181.

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"From Other Years"

(From UAMS Library, History of Medicine/
Archives Division.)

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Epistaxis a Liver Trouble

By J. C. Minor, M.D., Hot Springs, Ark.,
formerly of Walnut Ridge.

[Read at the Fifteenth Annual Session,
Little Rock, May 14-16, 1890.]

There is no doubt but that many cases of obstinate epistaxis in this locality (Northeast Arkansas) are due primarily to hepatic disorder, and

that when treatment can be properly directed to this organ a speedy and satisfactory relief can be procured for the "bleeder."

Out of six cases (two of long standing), four were proven to the writer to be due to the cause in question, presenting, as they did, the usual objective and subjective symptoms of the bilious disorders frequently accompanying malarial troubles.

In all six cases styptics (hot douche, lemon juice, tannin, ergot, etc.) were used, proving of value in but two cases, while the other four yielded

promptly only after irritating the region of the liver with a blister or with yellow ox. mercury ointment. It may be added that when the malarial symptoms returned (as they did in two cases), the tendency to hemorrhage returned also, but was controlled by the vigorous application of the yellow ointment to the right hypochondriac region.

I have had for several months under my observation a girl 9 years old, apparently bright, cheerful and in good health, but has been since early infancy subject to periodical attacks of epistaxis. The attacks have been usually protracted and prostrating, occurring about every two weeks, lasting some times three or four days and suddenly ceasing. About three months ago, during a severe attack, I applied ungt. oxid. hydr. flav. (U. S. P.) to region of liver and spleen (liver and spleen enlarged), and directed its continued application

night and morning for several days. Tr. chlor. ferri. was also administered for one afternoon, every two hours twenty to thirty drops.

The bleeding ceased in four hours. Considerable irritation and soreness resulted from the use of the ointment. She has since had a slight attack, which lasted only a few hours. The ointment is used occasionally as a precautionary measure.

I do not attempt to explain these cases, but simply report the facts connected therewith. We rarely see cases of epistaxis obstinate unless there is some want of vitality present with a tonic condition of capillaries. Many of these cases are due to disorders of liver, spleen, etc., and of malarial origin.

Authorities disagree as to what forms of liver trouble are most common causes. I found enlargement of liver and spleen in all the cases here mentioned.



MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

After a frantic burst of activity, Congress has settled the budget reconciliation bill, voted on tax cuts, and departed for a month-long vacation with much of the legislative work for the session behind it.

Medicaid will not be cut as deeply as the Administration wished and the block grant proposal was softened considerably under the budget compromise agreed to by the House-Senate conferees.

The Administration was delighted with the overall budget reconciliation compromise that pared spending next fiscal year by \$37 billion, but the Administration was forced to retreat on the two key health items—Medicaid and block grants—that had threatened to stall the huge conference negotiations on the House and Senate budget bills.

The flat, five percent cap that the Administration wanted to impose on increased federal outlays for Medicaid next year was thrown out. The

Senate had voted a nine percent cap, but the House had approved a formula decreasing federal payments over the next three years by three percent, two percent and one percent.

The conference compromise reduced projected costs by three percent, four percent the following fiscal year, and 4.5 percent the next year. Savings are estimated to be about \$1 billion a year, about what the Administration sought.

A controversial Senate plan to drop the minimum federal contribution to states to 40 percent from the present 50 percent was a casualty of the conference. A dozen larger states would have been especially hard hit.

State fears about the impact of the Administration's Medicaid cap were a major reason House Republicans decided not to fight earlier on the House floor for a health budget package following the Administration's recommendations. Instead, more liberal health provisions backed by the House Democratic leadership were adopted with-

out resistance in order to assure House passage of the rest of the Republican budget substitute that was a triumph for the Administration.

Sen. Orrin Hatch (R-UT), Chairman of the Senate Labor and Human Resources Committee, made a determined fight to hold the line on the Administration's plan to put 26 categorical health programs into block grants to the states.

With his back against the wall and House conferees not budging, Hatch finally took the unusual step of asking the White House to endorse any concessions he might have to make. The clearance was granted and the impasse over block grants was broken.

The Administration had proposed to break the 26 programs that cost some \$4 billion a year into two block grants, giving the states a free latitude to spend their allotments within the blocks.

The compromise calls for three block grants and for continued attachment of certain federal strings on all programs involved. The three blocks cover preventive health, health services and primary care.

The controversial family planning program would remain as a categorical program for three years during which time Health and Human Services (HHS) Secretary Richard Schweiker would make a study of the program.

The preventive health block grant would include home health programs, rodent control, fluoridation, health education, hypertension, emergency medical services, rape crisis centers and health incentive programs.

The health services block combines mental health, and alcohol and drug abuse prevention.

The primary care block grant primarily covers community health centers.

Programs excluded from block grants include, in addition to family planning, venereal disease control, child immunization, tuberculosis control and migrant health programs.

However, two of the three block grants that emerged from conference were so limited as to be little more than categorical. Under the Health Services block grant, for example, states next year must allocate funds next fiscal year among mental health, alcohol and drug abuse programs as they have in the past. They can shift funds about by five percent the following year and 15 percent the next.

The three-year authorizations for the block grants were:

—Preventive Health—\$92 million, \$93 million and \$95.5 million with an added \$3 million annually for rape crisis centers.

—Health Services—\$491 million plus \$30 million for alcoholism, \$511 million, \$532 million.

—Primary Care—\$280 million, \$302 million, and \$327 million.

Under the agreement, the health planning program grants were allowed to continue but with cuts. States were allowed to reduce the number of Health Systems Agencies.

The Administration would be allowed to eliminate as many as 30 percent of the 187 Professional Standards Review Organization (PSRO) programs. The House bill would have permitted the President to kill the program within a few years.

Authority was given in the budget bill to phase out the Public Health Service Hospitals starting next fiscal year.

Programs reauthorized included Health Maintenance Organizations (HMOs), Health Statistics Center, Health Services Research Center, Health Care Technology Center and the National Library of Medicine.

The budget bill cleared the way for C. Everett Koop, M.D., to become Surgeon General by removing the age limit for the job and the requirement that the nominee have experience within the PHS.

The existing adolescent pregnancy program was continued with a new \$10 million Senate program added for research on sexual chastity and more than \$6 million for storefront and other operations to counsel on prevention of promiscuity, etc.

No major changes were made in Medicare, but a House provision was adopted to increase by \$28 the amount patients must pay hospitals before the program picks up the expense. Rejected was a House proposal to require Medicare patients to pay \$1 a day for each of the first 60 days of hospitalization.

* * * *

The real loser is the public when the Federal Trade Commission (FTC) forces the professions to abandon responsible self-regulation, the American Medical Association has told Congress.

Urging Congress to legislate the FTC out of the business of regulating professions, Lowell Steen, M.D., a member of the AMA Board of Trustees, said "many associations have halted socially desirable activities such as peer review of excessive fees for fear of becoming involved in protracted and financially debillitating administrative procedures."

The FTC has for six years pursued action against the AMA, the Connecticut State Medical Society, and the New Haven County Medical Association challenging ethical principles of the medical profession "in a way that we view as harmful to the welfare of patients," said Dr. Steen in testimony before the Consumer Subcommittee of the Senate Commerce Committee.

"We and other medical societies have had to divert scarce resources from socially beneficial activities to defend against unfounded FTC charges," the AMA official said.

Congress was asked to approve legislation that would strip the FTC of jurisdiction over the state-regulated professions; preclude pre-emption of state laws by the FTC; provide financial relief from excessive demands of the agency for information; circumscribe the subpoena power of the FTC; clarify the meaning of "unfair competition"; provide protections afforded through judicial proceedings; and repeal the "intervenor program" under which the FTC funds organizations pressing causes before the FTC.

Dr. Steen pointed out that Reps. Thomas Luken (D-OH) and Gary Lee (R-NY) have introduced legislation to place a moratorium on FTC actions involving state-regulated professions, an effort supported by the AMA.

One of the AMA's main concerns is the "basic unfairness one finds when involved in an FTC action, where the Commission acts as an inquisitor, prosecutor, judge and jury," said Dr. Steen. The FTC action against the AMA's ethical precepts on advertising and solicitation came without warning and without prior investigation, he noted. There was "continuing disdain for responsible professional self-regulation and for the interests of the patients," Dr. Steen said. Failure to restrict misleading promotions can result in terrible tragedy to people, but the response of the FTC to the evidence produced by the AMA "was astonishing." The agency held that the AMA's stance against physician testimonials is

unacceptably overbroad and entered a sweeping order prohibiting the Association from involving itself in any way in the advertising practices of physicians unless those practices would violate the FTC act.

There are no compelling reasons whatsoever to give the FTC jurisdiction over the professions, the physician said. The FTC has no special insight and to the contrary, "has demonstrated a distinct lack of understanding in this area." State regulation is well suited to dealing with unfair methods of competition and private and state actions may be taken under the federal antitrust laws.

The AMA challenge to the FTC's action on the advertising code has been accepted for review by the Supreme Court which is expected to hand down a decision in the case within a year.

The American Dental Association (ADA) told Congress that the Federal Trade Commission wrongfully assumes that "its intervention into the regulation of oral health care delivery in the United States can confer an economic benefit to patients without an accompanying health risk and an adverse effect on quality of care."

ADA President Robert Griffiths, D.D.S., backed legislation that would strip the agency of authority over the professions. Dentists provide a service and not a product; the FTC should have no role in the regulation of dentists, Griffiths told the Senate Commerce Consumer Subcommittee.

Alvin Levin, past President of the American Optometric Association, said his association believes that "not only does the FTC lack the authority to preempt state health care laws, but it should not be given such authority in the future, as a matter of sound public policy."

Sen. John Melcher (D-MT), a veterinarian, said "in its zeal to protect the consumer, the FTC has far exceeded its statutory mandate." Melcher co-sponsored along with Sen. James McClure (R-ID) a bill in the last Congress to impose a two-year moratorium on the FTC acting against voluntary associations.

* * * *

A Presidential commission has recommended that the states adopt a model law that would allow physicians to declare a person dead whose brain has stopped functioning.

In the past, death was said to occur when breathing and heartbeat stopped, and 23 states

still adhere to this tradition. Advances in medical technology, which permit respiration and circulation to be prolonged artificially, however, have made this definition obsolete.

Under the Uniform Determination of Death Act, "an individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead."

The law does not specify criteria or tests to be used in determining death, allowing physicians to make decisions using the most up-to-date medical standards.

The AMA, American Bar Assn., and National Conference of Commissioners on Uniform State Laws have endorsed the model law. Twenty-seven states have some sort of law allowing brain-based determination of death.

The recommendation was made by the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research.

* * * *

The Association of American Medical Colleges (AAMC) has said that all foreign medical graduates (FMGs) should pass a practical "hands on" exam and that U. S. citizens who are FMGs should be required to pass as stiff a written test as foreigners.

A position paper adopted by the AAMC says domestic students are repeatedly evaluated on their essential skills and personal professional qualifications in a variety of educational settings. After passing a written examination, FMGs "should undergo an evaluation in prepared test centers in which qualified observers can evaluate their clinical skills and assess their personal professional qualifications," the AAMC said.

U. S. FMGs are asked only six percent of the questions about subjects in the basic sciences that domestic graduates are asked, the report said. Furthermore, the Americans who have graduated from medical schools abroad are certified if they pass an exam prepared by the Educational Commission for Foreign Medical Graduates (ECFMG) that has 62 percent fewer test items and 88 percent fewer questions in basic sciences than the test administered to alien graduates in the test known as the Visa Qualifying Exam (VQE).

"It is difficult to understand why U. S. citizens should be accorded ECFMG certification on the basis of such a lesser evaluation, particularly in light of the specific negative comments of the GAO (General Accounting Office) report relating to several of the schools to which most U. S. citizens have access," said the report.

"It is even more difficult to understand why the ECFMG persists in certifying U. S. citizens on the basis of passing a 360-item examination when one compares it to the examination that over 75 percent of the graduates from our domestic schools have passed at the time they enter graduate medical education," the AAMC said, noting that the domestic test is composed of 1,840 questions.

Measures currently employed to determine the adequacy of the medical education of the more than 10,000 Americans studying medicine abroad "do not approach equivalency," the report said. "Thus, those who enroll in the foreign-charted schools to which most U. S. citizens have access may return and eventually practice medicine deficient in both knowledge and professional skills."

The AAMC said proprietary medical schools attracting U. S. citizens abroad "now threaten to compromise" the achievements of medical education in this country. These foreign schools "press both public and private policymakers to provide special opportunities and privileges to their enrollees."

* * * *

A panel established by two congressmen to review the federal government's new drug approval has completed its first organizational meeting.

After a six-month investigation, the commission will make recommendations on how the FDA can speed the approval of new drugs without compromising public safety and on how it can guarantee quick and cost-effective removal from the market of drugs which cause adverse effects.

Reps. James H. Scheuer (D-NY) and Albert Gore (D-TN) whose House Science and Technology subcommittees are investigating the drug approval process, assembled the 25-member panel.

Scheuer blamed "regulatory overkill" at the FDA for the 7 to 10 year delay between the discovery of new pharmaceuticals and their approval for use in the United States.

F. Gilbert McMahon, M.D., clinical professor of medicine and adjunct professor of pharmacology at Tulane Medical School, New Orleans, is panel chairman. Other representatives are from academia, industry, government, and the public sector.

* * * *

Women who are pregnant or considering pregnancy should not drink alcohol and should watch for foods and drugs containing alcohol, a Surgeon General's advisory says.

"Sizeable and significant increases in spontaneous abortions have been observed at reported alcohol consumption levels of as low as one ounce of absolute alcohol twice a week," the advisory warned. (Two standard shots of hard liquor contain an ounce of pure alcohol.)

The report also noted that women who drink an average of an ounce of absolute alcohol a day while pregnant risk bearing children who are significantly underweight.

Edward N. Brandt, M.D., Assistant Secretary for Health and acting Surgeon General, urged physicians, in an individual mailing, to pass the warning on to their patients.

The advisory also warned that:

—A woman who drinks enough to be diagnosed as an alcoholic risks bearing a child with fetal alcohol syndrome (FAS), a collection of birth defects associated with mental retardation, central nervous system disorders, growth deficiencies, and a cluster of facial abnormalities and other malformations.

—A woman who drinks heavily, even if she does not bear a child with FAS, risks bearing a child with one of the individual defects included in the syndrome.

—Heavy alcohol consumption is known to decrease mother's milk, and alcohol is transmitted to nursing infants through breast milk.

The advisory said the effects of alcohol consumption on pregnancy appear to be independent of variables such as maternal nutrition and smoking habits.

The letter to physicians urged them to ask their patients who are pregnant or considering pregnancy about alcohol consumption and include the information in their medical records.

* * * *



PROCEEDINGS OF SOCIETIES

TRI-COUNTY MEDICAL SOCIETY (Fulton, Izard and Sharp)

The second quarterly meeting of the Tri-County Medical Society was held in Cherokee Village on September 9, 1981, at 6:30 p.m.

Dr. Purcell Smith, Jr., president of the Arkansas Medical Society, discussed the State Society activities. Dr. O. H. Clopton of Jonesboro presented a scientific paper on "Pneumonia."

ANSWER—Electrocardiogram of the Month

DISCUSSION: The ECG shows groups of beats terminating with nonconducted P-waves. The PR interval of the first three beats on the trace prolongs progressively and the fourth P-wave is not conducted. This is 4:3 Wenckebach. The next two groups of two beats each are in the pattern of 3:2 Wenckebach. Additionally, the trace shows an intraventricular conduction defect, left axis deviation, poor R-wave progression, and nonspecific ST-T changes. Wenckebach is commonly seen with digitalis intoxication and the patient does have a history compatible with digitalis excess. Generally, one does not need to pace the patients in this setting nor would digoxin antibodies be indicated in this situation. Most physicians would simply stop the digoxin, observe the patient for progressive block and arrhythmia, and seek an explanation as to why digitalis intoxication developed, looking for changes in renal or thyroid function, electrolyte imbalance, etc. Thus, the best answer is A.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

OPHTHALMIC MANIFESTATIONS OF SYSTEMIC DISEASE

Presented by Thomas Williams, M.D., *October 30, 7:00 p.m.*, In-service Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

CHEST AND ABDOMINAL COMPUTED TOMOGRAPHY

Presented by Charles Boyd, M.D., and Ernest Ferris, M.D., *October 31st and November 1st*, Hilton Inn, Little Rock. Nine hours Category I credit. Registration fee \$130.00. Sponsored by UAMS.

PULMONARY CONFERENCE

Presented by Naomal Jayasundera, M.D., *November 3, 12:15 p.m.*, Red Room, St. Joseph's Regional Health Center, Hot Springs. One hour Category I credit. No registration fee. Luncheon meeting.

PNEUMONIAS — WHAT'S NEW IN TREATMENT AND DIAGNOSIS

Presented by Joseph Bates, M.D., Chief of Medical Services, Veterans Administration Hospital, Little Rock, and Beltina Hilman, M.D., Chief of Pediatric Pulmonary Medicine and Allergy Section, LSU Medical Center, Shreveport, Louisiana, *November 5, 4:00 p.m. to 9:00 p.m.*, Holiday Inn, I-30 and Stateline, Texarkana, Arkansas. Four hours Category I credit. Registration fee: \$15. Sponsored by AHEC Southwest.

EMERGENCY MEDICINE UPDATE

Presented by Marvin Leibovich, M.D., et al., *November 5, 8:00 a.m. to 7:00 p.m.*; *November 6, 8:00 a.m. to 6:15 p.m.*; *November 7, 8:30 a.m. to*

12:15 p.m., Baptist Medical Center Auditorium. Nineteen and three-fourth hours Category I credit. Registration fee \$75.

MANAGEMENT OF ADULT ONSET DIABETES IN 1982

Presented by Peter O. Kohler, M.D., Professor and Chairman, Department of Medicine, UAMS, *November 6, 7:00 p.m.*, In-Service Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

WRIST INJURIES — NEW CONCEPTS

Presented by Edward R. Weber, M.D., *November 6-7*, Education II Building, UAMS. Eleven hours Category I credit. Registration fee \$150.00.

PSYCHOPHARMACOLOGY

Presented by Allen Gellenberg, M.D., Joe T. Backus, M.D., and Stuart Harris, M.D., *November 7*, Education II Building, UAMS. Hours of credit unknown. No registration fee.

ADVANCED CARDIAC LIFE SUPPORT

Presented by Dave Doernbach, M.D., *November 13-16*, Education II Building. Twenty hours Category I credit. Sponsored by UAMS. Registration fee \$175.00.

ADVANCES AND TREATMENT OF BREAST, LUNG, AND COLON CANCER

Presented by Michael C. Perry, M.D., Associate Professor of Medicine, University of Missouri—Columbia Medical Center, *December 4, 7:00 p.m.*, In-Service Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, November 5 and 19, and December 3 and 17th, 1:00 p.m., Conference Room.

Pathology Conference, November 17 and December 15, 3:00 p.m., Conference Room.

Mortality Conference, November 12 and December 10, 3:00 p.m., Conference Room.

Peer Exchange, November: "Endocrinology"; December: "Pulmonary".

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

HOT SPRINGS — ST. JOSEPH'S REGIONAL HEALTH CENTER

Chest Conference, second and fourth Tuesday, 12:30 p.m. Red Room.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, November 11 and December 9, 6:00 p.m. to 12:00 midnight, Human Resources Development Area. Six hours Category I credit.

GI Roundup, November 4, 18, and December 2, 16 and 30, 12:00 noon to 1:00 p.m., Conference Room #1.

Emergency Medicine Conference, November 11 and December 9, 12:30 p.m. to 1:30 p.m., Conference Room #1.

Morbidity and Mortality Conference, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Surgery Conference, each Thursday except first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Anesthesiology Conference, November 19 and December 17, 7:00 a.m. to 8:00 a.m., Dining Room #3.

Case of the Month, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

Central Arkansas Primary Care Conference, second Tuesday, 7:00 p.m. to 9:00 p.m., BMC Auditorium.

Pulmonary Care Conference, each Tuesday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 p.m. to 1:15 p.m., Coffee Shoppe Dining Room #3.

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E155, Education Wing.

Pediatric Conference, first and third Monday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.

Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.

Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.

Cardiology Conference, second and fourth Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.

Cleft Palate Conference, Wednesday, November 18, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Internal Medicine Grand Rounds, each Tuesday, 8:00 a.m. to 9:00 a.m., Education I Auditorium.

Anesthesiology Complications Conference, each Tuesday, 7:00 a.m. to 8:00 a.m., Room 2E04, UAMS Hospital.

Neuroradiology Course, each Wednesday, 4:00 p.m. to 5:00 p.m., Radiology Conference Room.

Radiology Continuing Education Lecture Series, two Wednesdays each month, 6:00 p.m. to 7:30 p.m., Radiology Conference Room.

Residents Anesthesia Seminars, each Wednesday and Thursday, 3:30 p.m. to 4:30 p.m., Room 2E04, UAMS Hospital.

Ophthalmology Problem Case Conference, each Thursday, 4:00 p.m. to 6:00 p.m., UAMS Eye Clinic.

Categorical Course in Radiology, each weekday except Wednesday, 4:15 p.m. to 5:00 p.m., Wednesday, 5:00 p.m. to 5:45 p.m., Radiology Conference Room.

TEXARKANA — AHEC-SW

Monthly Chest Conference, November 18, 12:30 p.m., St. Michael Hospital, Classroom B.

Monthly Tumor Conference, November 4, 7:00 a.m., St. Michael Hospital, Classroom B.



P E R S O N A L A N D N E W S I T E M S

NEW PHYSICIANS IN FORT SMITH

Holt-Krock Clinic in Fort Smith has announced the association of two doctors, Dr. Christopher J. Trauth and Dr. W. Don Heard. Dr. Trauth specializes in Hematology/Oncology and Dr. Heard specializes in Pulmonary Medicine.

DR. KLEPPER SPEAKS

Dr. Charles Klepper of Harrison was the speaker for a meeting of laboratory workers at Boone County Hospital. Dr. Klepper discussed various clinical aspects of electrolyte imbalance and utilization by the body.

DOCTOR LOCATES

Dr. Lawrence J. Abramson has opened his office in Blytheville for the practice of Dermatology.

MEDICAL STAFF ELECTED

Physicians recently elected as officers of the medical staff at Doctors Hospital in Little Rock are: Dr. Ben O. Price, chief of staff; Dr. James R. Walt, chairman of the Board of Trustees; and Dr. James W. Headstream, vice chairman.

DR. KOENIG

Dr. A. Samuel Koenig, III, has been appointed

to the Arkansas State Board of Health to represent the third district.

DR. HUDSON HONORED

Dr. William Hudson of Jasper was honored recently by District Two of the Arkansas Public Health Association. Dr. Hudson was recognized for his years of dedicated and outstanding service as a physician and for his work in research throughout the world.

State Senator Vada Sheid presented Dr. Hudson with a special award from the State Senate and Governor White honoring his unique contribution to the people of Arkansas and the world.

MALVERN GAINS PHYSICIANS

Drs. Michael G. Justus and Bruce A. White have located in Malvern for the practice of Family Medicine.

MOUNTAINBURG PHYSICIAN

Dr. D. Bart Sills has opened his office at The Mountainburg Clinic for Family Practice.

DR. WARD SPEAKS

Dr. Harry A. Ward, chancellor of the University of Arkansas for Medical Sciences, was the speaker at a recent meeting of the Pine Bluff Rotary Club.

MEDICAL DIRECTOR

Dr. Naomal Jayasundera has been named the medical director of the Cardiopulmonary Department at Ouachita Memorial Hospital in Hot Springs.

INDIAN ART LECTURE

Dr. Kent Westbrook of Little Rock lectured on Indian Art during "Ozark Pioneer Week" at the North Arkansas Community College.

AHEC DIRECTOR

Dr. Michael Mackey has been named director of the Area Health Education Center—Northeast in Jonesboro.

ASSOCIATION ANNOUNCED

Dr. Thomas Eans, formerly of Mountain Home, has joined Dr. Steve Blackburn in Heber Springs. Dr. Eans will practice Family Medicine.

CME PROGRAM

Dr. Warren Boop, Jr., of Little Rock, spoke on "Management of Chronic Pain" during the Baxter General Hospital's regional Continuing Medical Education Program.

DR. SALTZMAN HONORED

During a recent meeting of District Two of the State Public Health Association, State Senator Vada Sheid presented Dr. Ben N. Saltzman with

an award from the Arkansas Senate and Governor White. Dr. Saltzman was recognized for his continued and outstanding work in health care for the people of Arkansas, especially in rural areas.

VAN BUREN GAINS PHYSICIAN

Dr. Thomas D. Yeager has opened his office for the practice of Pediatrics at Chestnut and 20th Streets in Van Buren.

VOLUNTEER HONORED

Dr. Weldon T. Rainwater of Jonesboro was honored for his community volunteer work during the Fourth Annual Community Services Awards Presentation.

PHYSICIANS RELOCATE

Drs. Carl M. Kendrick and Peter R. Heinzelmann have relocated to the Rogers Orthopaedic-Neurological Clinic, Ltd., at 101 North 37th Street in Rogers.

FATHER-SON PHYSICIANS

Dr. Wayne Croom, medical director at East Arkansas Family Health Center, was recently joined on the staff of the Center by his son, Dr. James Clifford "Cliff" Croom, who is in a residency program at the Center.

DR. CATES

Dr. Jack A. Cates has opened an office for the practice of Dermatology, Dermatologic Surgery, Hair Transplantation, and Mohs Chemosurgery, at 100 Ridgeway Place, Suite 5, in Hot Springs.

DR. SALTZMAN SPEAKS

Dr. Ben Saltzman, director of the State Health Department, recently spoke to the Mena Optimist Club and the Batesville Rotary Club. Dr. Saltzman's presentations outlined the general operations and services of the State Health Department and his experiences in learning about public health.

DR. CHAPPELL MOVES

Dr. Robert H. Chappell has taken a leave of absence from Chappell-Joyce Pathology Association in Texarkana to accept a teaching position at Oral Roberts University School of Medicine in Tulsa.

DR. MASSEY

Dr. Lorenzo D. Massey recently arranged a program about medicine for the Kiwanis Group in Osceola. The guest speaker was Dr. Kent Davidson, Assistant Professor of Family Medicine at the University of Arkansas College of Medicine.

MENA GAINS PHYSICIAN

Dr. Robert Manis, a native of Paragould, has

begun practice in Mena. Dr. Manis is a Family Physician.

LEPANTO GAINS PHYSICIAN

Dr. Quong Trinh has opened his office in the East Arkansas Family Health Center in Lepanto; Dr. Trinh will practice General Medicine.

DR. PAPPAS

Dr. James J. Pappas of Little Rock is a new director on the Arkansas Council on Brotherhood of the National Conference of Christians and Jews.



NEW MEMBERS

DR. WILLIAM G. SWINDELL

Dr. Swindell, a new member of the Benton County Medical Society, is a native of San Diego, California.

In 1972, Dr. Swindell received his B.A. in Zoology from the University of Arkansas at Fayetteville. He was graduated from the University of Arkansas College of Medicine in 1976.

From 1976 to 1979, Dr. Swindell served with the United States Army. His internship was with Letterman Army Medical Center—Presidio of San Francisco. He served two years as a flight surgeon. Following his military service, Dr. Swindell served a residency in Internal Medicine with the University of Arkansas College of Medicine.

Dr. Swindell practices Internal Medicine. He is associated with Rogers Diagnostic Clinic, P.A., at 1019 West Cypress Street in Rogers.

DR. PAUL N. PETTIT, JR.

Dr. Pettit has been accepted for membership by the Crittenden County Medical Society. He is a native of Henning, Tennessee.

Dr. Pettit received two degrees from Memphis State University in Tennessee — a B.S. in May of 1964 and an M.S. in January of 1967. He was graduated from the University of Arkansas College of Medicine in 1971. After his internship at Tulane University Hospitals in New Orleans, Dr. Pettit served as a flight surgeon in the United States Air Force until 1974. His residency was

with Emory University Hospitals in Atlanta and Tulane University Hospitals.

Dr. Pettit was in private practice in Natchez, Mississippi, for six months. He practiced with Sherr Clinic for one year. Dr. Pettit has been in the Memphis-West Memphis area since January of 1980. He is an instructor with the Department of Otolaryngology at the University of Tennessee College of Medicine and is on the clinical staff of St. Jude Children's Research Hospital.

Dr. Pettit is board certified in Otolaryngology. His office is located in Suite 302 at 228 Tyler, West Memphis.

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The Garland County Medical Society has added four new members to its roster:

DR. RICHARD E. BRALEY

Dr. Braley was born in Denver, Colorado.

Dr. Braley's pre-med education was with Colorado State University. He was graduated from the University of Colorado School of Medicine in Denver in 1974. His straight medicine internship was with Louisiana State University Medical Center in Shreveport. Dr. Braley served a residency at the Medical College of Wisconsin (Milwaukee). Following the residency, he was a Fellow at Vitreoretinal Research Foundation in Memphis, Tennessee. During the Fellowship, he was an instructor in the Ophthalmology Clinic at the Memphis Veterans Administration Hospital. Before moving to Hot Springs, Dr. Braley had practiced Ophthalmology and Emergency Medicine in Memphis, Tennessee. He is board certified.

Dr. Braley has an office at 312 St. Louis Street in Hot Springs for the practice of Ophthalmology.

DR. JAMES W. CAMPBELL

Dr. Campbell is a native of Hot Springs. His pre-med education was with Michigan State University. In 1975, he was graduated from the University of Arkansas College of Medicine.

Dr. Campbell served his internship and Gen-

eral Surgery residency with the University Hospital in Little Rock. From 1980 to 1981, he practiced with the Middle Tennessee Group in Lebanon, Tennessee.

Dr. Campbell is a General Surgeon. His office is located at 236 Central in Hot Springs.

DR. MARK W. JUMPER

Dr. Jumper, a native of Benton, now practices at 1705 Central in Hot Springs.

Dr. Jumper attended Henderson State University. He was graduated from the University of Arkansas College of Medicine in 1978. After an internship with City of Memphis Hospitals in Tennessee, he worked as an Emergency Room physician in Pine Bluff.

Dr. Jumper is in the General Practice of Medicine.

DR. PATRICIA ANN LANG

Dr. Lang is a new member of the Garland County Medical Society. She was born in Mercedes, Texas.

Dr. Lang is a 1952 graduate of the St. Joseph School of Nursing in Chicago and a 1956 graduate of Texas Western College in El Paso. She was graduated from the University of Texas Medical Branch, Galveston, in 1960. Dr. Lang served a straight medicine internship, an Internal Medicine residency and a Renal Diseases fellowship at The University of Texas—Medical Branch.

From 1965 to 1968, Dr. Lang served in various positions with The Medical Branch: instructor in the Department of Internal Medicine, Associate Director of the Endocrine Metabolic Laboratory, Director of Medicine Outpatient Clinics and Assistant Professor with the Department of Internal Medicine.

Dr. Lang entered private practice in 1968 in Houston. From 1969 to 1981, she was in private practice in Pasadena, Texas.

Dr. Lang specializes in Internal Medicine. Her office is located at 6 Sitio Lane, Hot Springs Village.

* * * *

DR. FRAN L. DUKE

Dr. Duke, a native of Des Arc, is a new member of the Jackson County Medical Society.

Dr. Duke received a B.A. from the Arkansas College in Batesville in 1971. She was graduated from the University of Arkansas College of Medicine in 1979.

After an internship with University Hospital, Dr. Duke began practice in Newport.

Dr. Duke has her office for Family Practice at Second and Laurel in Newport.

DR. HORACE JOHNSON

Dr. Johnson has joined the Jefferson County Medical Society. He is a native of Lewisville.

In 1965, Dr. Johnson received a B.S. in Chemistry from Arkansas AM&N and, in 1968, received his M.S. in Chemistry from the University of Arkansas at Fayetteville. He was graduated from Meharry Medical College School of Medicine, Nashville, Tennessee, in 1974. His internship and residency were with The Staten Island Hospital, New York.

Dr. Johnson specializes in General Surgery. His office is located at 2526-B East Harding in Pine Bluff.



O B I T U A R Y

DR. JAMES B. HOLDER

Dr. Holder died August 21, 1981. He was born June 29, 1909.

Dr. Holder was graduated from Tulane University School of Medicine in 1940 and began practicing in Monticello in 1941.

From 1967 to 1977, Dr. Holder was on the staff of the Veterans Administration Medical Center in Little Rock. He was a veteran of World War II and an elder of the First Presbyterian Church.

Dr. Holder is survived by his wife, Mrs. Bernice Wilson Holder, two daughters, and two sons—Dr. James H. Holder, III, of Monroe, Louisiana, and Dr. John T. Holder of Seattle.

DR. THOMAS S. VAN DUYN

Dr. Van Duyn died August 14, 1981. He was born December 15, 1909.

Dr. Van Duyn was a graduate of Stuttgart High School, Ouachita Baptist University in Arkadelphia, and was a 1936 graduate of the University of Arkansas College of Medicine. His internship was with Charity Hospital in Shreveport, Louisiana.

Dr. Van Duyn began the practice of medicine with the late Dr. C. W. Strait in Stuttgart. Dur-

ing World War II, he served with the Army Medical Corps in the European Theatre. Dr. Van Duyn returned to Stuttgart after the war and opened a clinic. He was a member of the First Baptist Church and the Rotary Club. He was a Mason.

Dr. Van Duyn served as the Federal Aviation Administration medical examiner for the area and had served as Stuttgart's city health officer.

Dr. Van Duyn is survived by his wife, Mrs. Mary Louise Bethel Van Buyn, one son and one daughter.



THINGS TO COME



November 19-20

Critical Issues in Health Law. American Society of Law and Medicine. Washington Hilton, Washington, D. C. Registration fee: \$180 members of American Society of Law and Medicine; \$200 non-members. For further information, contact: A. Edward Doudeara, J.D., Executive Director, American Society of Law and Medicine, 520 Commonwealth Avenue, Boston, Massachusetts 02215; phone (617) 262-4992.

December 11-13

Cardiovascular Disease: New Horizons in Clinical Management. Fourteenth Annual Cardiovascular Symposium, The American College of Cardiology and New York Medical College. Sheraton Center, 7th Avenue at West Fifty-Second Street, New York, New York. Twenty credit hours in Category I AMA; 20 prescribed hours by the American Academy of Family Physicians. Registration: \$240 for members of the American College of Cardiology; \$280 for non-members of the College. For registration and/or information, contact: Registration Secretary, Extramural Pro-

grams Department, American College of Cardiology, 9111 Old Georgetown Road, Bethesda, Maryland 20814.

1982

January 13-16

A Clinical Course on Critical Pulmonary Care. SUPERCOURSE® VIII. American Lung Association, Inc.; American Thoracic Society of Louisiana. Fairmont Hotel, New Orleans, Louisiana. Tuition: \$225 physicians; \$195 Fellows, Residents and Interns. Category I AMA. For course information and registration, contact: Course Coordinator, American Lung Association of Louisiana, 333 St. Charles Avenue, Suite 500, New Orleans, Louisiana 70130.

March 20-27

Pulmonary Diseases: A Practical Approach. Division of Pulmonary Diseases and Extended Programs in Medical Education, University of California, School of Medicine, in cooperation with Educational Services, Columbus Hospital, Great Falls, Montana. Twenty hours Category I AMA. Madison/Jefferson Room in The Mall, Big Sky, Montana. For further information: Extended Programs in Medical Education, University of California, 1308 Third Avenue, San Francisco, California 94143. For lodging, contact: Universal Travel, Suite 404, ATTENTION: U.C. Desk 140 Geary Street, San Francisco, California 94108; phone (415) 421-1882.



**10th ANNUAL
AMA-ERF SHARING CARD
1981**

— Would You Believe That It Is Time To Think Of Sending Christmas Cards? —

WHO? Sponsored by the Arkansas Medical Society Auxiliary, statewide.

WHAT? A greeting card, designed by Janice Polychron of Hot Springs.
Janice is a commercial artist, who has also been interested in medical education for a number of years. The card, with your name printed under your county, will be addressed and mailed for you about December 15, to EACH member of the Arkansas Medical Society and the faculty physicians at the University of Arkansas Medical School. This card will reach approximately 2,000 physicians.

WHY? To benefit the University of Arkansas College of Medicine by providing unrestricted funds which may be used to support medical education and for student loans. **THE NEED IS GREAT!** The cost of providing quality medical education and supporting research is staggering.

WHERE? Fill in the form below and mail with your check to the address shown below.

WHEN? Deadline for receiving names is December 1, 1981.

HOW MUCH? . . . Individuals or families — \$25.00 minimum.
Businesses, corporations, or groups — \$50.00 minimum.

DEDUCTIBLE? . . Contributions to AMA-ERF are income tax deductible.

* * * * *

PLEASE Send in your money today and make this the biggest sharing card ever. With your help, the card can be very successful. So, send money **NOW**.

Make checks payable to: **AMA-ERF**

Mail before December 1, 1981, to:

Mrs. Larry Lawson or
Mrs. Asa Crow
#1 Medical Drive
Paragould, Arkansas 72450

Detach and return:

Please list name(s) on card as: _____

County: _____

Designate the contribution:

☐ To benefit the University of Arkansas College of Medicine

☐ Other (Indicate Choice)

Contribution amount: ☐ \$25.00 ☐ \$50.00 ☐ Other — \$ _____

THE
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GASTROINTESTINAL RADIOLOGY

Principles of Double Contrast Diagnosis

Igor Laufer, M.D.*

Successful utilization of double contrast techniques requires a clear understanding of the principles involved in the performance and interpretation of these studies as applied throughout the gastrointestinal tract. These principles are discussed in terms of principles of performance and principles of interpretation. In the performance of these studies one must consider a) mucosal coating, b) distension, c) projection, and d) compression. All of these factors must be taken into account in order to demonstrate subtle lesions and to be certain that significant lesions are not overlooked.

The interpretation of double contrast examinations differs considerably from the interpretation of conventional single contrast studies. The image seen on a vertical beam radiograph represents a summation of the dependent and nondependent surfaces. The dependent surface has a thicker barium coating while the nondependent surface has a very thin barium coating. Protruded or polypoid lesions appear as a radiolucent filling defect on the dependent surface while similar

lesions on the nondependent surface are etched in white. Depressed lesions may appear as barium collections on the dependent surface while they appear as ring shadows on the nondependent surface. Thus, the appearance of any type of lesion will depend on its location. In addition, the appearance of the lesion depends on its morphology. In particular, lesions with sloping edges may be very difficult to demonstrate on the nondependent surface unless compression is used.

The barium pool is an important concept since it is used to optimize mucosal coating and to demonstrate lesions on the dependent surface. However, the barium pool can also be a source of errors since it may hide lesions on either the dependent or nondependent surface.

These principles will be illustrated by examples taken from the stomach, duodenum, and colon.

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Polyp Cancer Sequence: Decisions for the Radiologist

Jerry Phillips, M.D.*

Colon cancer is overall the most common cancer that affects both sexes and second in cause of deaths. At present over 100,000 new cases are being discovered each year. About 500,000 living persons carry the diagnosis of colo-rectal cancer. Very little progress has been made in the last 30 years in improving the survival rate for this dis-

ease. Patients with local disease have a far better prognosis than those with regional disease (71% as contrasted to 26% relative 5 year survival rate). Thus far our tremendous advances in clinical medicine have done little to alter the survival rate in one of the most common malignancies which has a very high curability in early stages. As radiologists we should be familiar with the colon polyp-cancer sequence and aware of the

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potential and limitations for early detection using radiologic methods.

The malignant potential of adenomas varies with (1) the histological type of the polyp, (2) the size of the polyp, and (3) the degree of epithelial atypia in the polyp. Muto, Bussey, and Morrison found carcinoma rising in 5% of tubular adenomas, 40% of villous adenomas and intermediate figure of 22% in mixed tubulo villous adenomas. They also noted that 1.3% of adenomas under 1cm contain carcinoma, while 46% of those over 2cm contain carcinoma. Many of the lesions exceeding 2cm were villous adenomas but even small villous adenomas had 10 times the malignant rate of small tubular adenomas.

With such clear cut evidence that practically all colon carcinomas arise in adenomatous polyps and grow at a fairly steady rate into larger polypoid malignancies that finally encircle the bowel wall producing the typical constricting carcinoma, the radiologist must look at his possible contribution to the detection of early lesions. Screening of large groups of patients implies performing a double contrast barium colon exam on completely asymptomatic patients and has thus far not been considered practicable. However, there are groups of patients who are at increased risk for colon cancer and who deserve periodic examination of the colon using the double contrast technique. There are a number of factors that have been shown to increase the risk for colon cancer. There is an increasing incidence of colon cancer with age. Problems arise however in deciding how age as a criteria for exam should be applied. Patients with polyps or a history of polyps are at increased risk for colon cancer. Any patient who has had a colon cancer removed is at increased risk for developing polyps and thus another cancer for the remainder of his life. A history of genital or breast cancer in women has been shown to be associated with a higher risk for developing colon carcinoma. Even a family history of polyps, or colon cancer increases the risk for the individual patient to develop carcinoma of the colon. We are all familiar with the association between longstanding inflammatory bowel disease and colon cancer. More or less continuous disease for ten years is usually the time interval considered necessary for patients to be at increased risk to develop a carcinoma. This same potential is present for patients who have had irradiation colitis.

The practicing radiologist is faced with deciding how he will select patients for a double contrast colon exam if this is not the method used routinely for all barium colon studies. To provide appropriate consultation for referring physicians one must be aware of the patient groups that are at higher risk for developing colon cancer and have in mind some practical regimen for initial and periodic follow-up examinations in these patients. The following is an outline for consideration.

ADENOMATOUS POLYPS

1. Perform a double contrast colon exam if polyps are found on a filled colon study.
2. If polyps are not removed, reexamine the patient in six months to one year keeping in mind that polyps between 1 and 2cm diameter have a significant possibility for malignant change and those over 2cm have almost a 50% chance of containing a focus of carcinoma.
3. If polyps are removed, reexamine the colon by double contrast technique in one year. If no new polyps have developed, lengthening the interval between exams to 2-3 years seems reasonable.

PATIENTS WHO HAVE HAD A COLON CANCER RESECTED

1. Perform a double contrast exam within a year after surgery.
2. If no polyps are found, reexamine the patient every 2-3 years.

PATIENTS WITH FAMILY HISTORY OF COLON CANCER OR WOMEN WITH GENITAL OR BREAST CANCER

Recommend a baseline examination at age 40 with periodic follow-ups depending upon findings.

LONGSTANDING INFLAMMATORY BOWEL DISEASE

After ten years of continuous disease double contrast examinations are indicated at 1-2 year intervals with modification depending upon patients' symptoms.

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Intraluminal Colonic Pressures During Barium Enema

Wilma C. Diner, M.D., G. K. Patel, M.D., E. C. Texter, Jr., M.D., and M. L. Baker, Ph.D.*

Objectives: The study was designed to determine whether or not there is a significant difference in the pressure generated within the colon by performance of air-contrast barium enema compared to full column technique.

Methods: Ten patients undergoing air-contrast barium enema, and ten having full column examinations were studied by means of a specially designed perfusion catheter manometry tube inserted into the distal colon through a flexible sigmoidoscope and left in place during the study.

Results: All pressures during the procedure were significantly raised over resting baseline

pressures. The highest pressures were seen during Valsalva and leg raising, with very significant elevation over any time during the barium enema procedure itself. There were no significant differences between the pressures recorded during the two types of study, and in fact, in six of eight comparisons, the actual pressure was higher during full column study.

Our results should eliminate any fear that air-contrast barium enema is more dangerous than a full-column study. Also, the levels of pressure previously shown to be necessary to rupture the colon, compared to our recorded pressures, suggested that when perforations occur, the cause is more likely related to disease or other local factors.

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Gastrointestinal Bleeding in the Pediatric Age Group

E. A. Franken, Jr., M.D.*

The diagnostic possibilities of gastrointestinal bleeding in children differ considerably according to age and severity of bleeding. We here classify the causes of bleeding by age groups, and discuss the specific causes of bleeding in the pediatric patient.

In the newborn there are numerous causes of gastrointestinal bleeding, but few of them are surgical ailments. They include:

1. Swallowed maternal blood
2. Anorectal trauma with anal fissure
3. Hemorrhagic disease of the newborn with hypoprothrombinemia
4. Colitis — allergic or infectious

5. Congenital heart disease
6. Hypoglycemia
7. Unexplained bleeding with spontaneous cessation (50% are here)

Because most bleeding in the neonate is from the above disorders, extensive radiologic study is seldom indicated.

In the infant less than one year of age massive hemorrhage is infrequent. The usual causes would be stress ulcer or Meckel's diverticulum. Minimal bleeding is seen with intussusception, anal fissure, or gangrenous bowel.

In the child over one year of age there are a variety of causes of bleeding. Streaks of blood in the stool may indicate colon polyp. Occult loss of

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blood in the stool is seen in numerous conditions. Massive bleeding may result from peptic or stress ulcer, gastritis, or esophageal varices. If the gastric aspirate is clear distal lesions such as Meckel's diverticulum and rare disorders should be considered.

Radiographic approach to gastrointestinal bleeding in children depends upon the age group, severity of the bleeding, diagnostic possibilities and clinical manifestations. In many instances

endoscopy might be a first approach. Angiographic studies are useful in the same circumstances as the adult.

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Unusual Manifestations of Peptic Ulcer Disease

George A. Norton, M.D.*

The incidence of peptic ulcer disease seems to be slightly on the decline. However, in the United States, approximately 5% of males at 50 years of age and 2% of females at 40 years of age have either active or healed peptic ulcers.

Much has been written about the radiographic appearances of peptic ulcers and their differentiation from malignant ulcers. Less common appearances or manifestations of these ulcers will be presented. Radiographic appearance as well as incidence, etiology, and treatment will be discussed.

MULTIPLE ULCERS

It is estimated that 12-24% of patients with peptic ulcer disease will have multiple ulcers. The majority of multiple ulcers occur within the stomach while concurrent gastric and duodenal ulcers are seen less commonly. Multiple gastric ulcers have in the past been considered by some a sign of benignancy. More recent data establishes that each ulcer must be evaluated individually. In one series of multiple gastric ulcers, 20% contained a malignant lesion.

GASTRIC ANTRAL DIAPHRAGM

Both congenital and acquired origins have been proposed to explain the antral diaphragm. The acquired theory is supported by the higher incidence of diaphragms in adults some of which have demonstrated inflammatory infiltration pathologically. Radiographically, they give the appearance of a "double bulb". The central aperture of the diaphragm does not change with peristalsis as does the pyloric channel.

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RETAINED GASTRIC ANTRUM

The retained antrum is a syndrome of hyperacidity caused by failure of removal of the entire gastric mucosa from the duodenal stump when performing a Billroth II type gastrojejunal anastomosis. Increased gastrin secretion by the excluded gastric mucosa results in markedly increased acid secretion and resultant severe recurrent peptic ulcer disease.

ZOLLINGER-ELLISON SYNDROME

Zollinger & Ellison described a syndrome of marked hyperacidity, severe upper gastrointestinal ulcer disease, and non beta islet cell tumors of the pancreas. These tumors secrete high levels of gastrin which causes increased acid secretion and results in severe intractable ulcer disease. 60% of these tumors are malignant and 33% are multiple. Death from this syndrome usually results from complications from the patient's peptic ulcer disease rather than from the tumor itself. The treatment of choice is total gastrectomy and if possible, removal of the gastrinoma.

MARGINAL ULCERATION

Marginal ulcers occur secondary to the retained gastric antrum, incomplete vagotomy, Z-E syndrome, and improper placement of the gastroenterostomy stoma. They occur most often on the jejunal side of the anastomosis and more frequently at or within the efferent loop.

GASTROCOLIC FISTULA

Gastrocolic fistula is usually a complication of malignancy. In a recent study of 201 cases of gastrocolic fistula, 50% were due to gastric carci-

noma, 28% from carcinoma of the colon, and 15% from benign peptic ulcer. Perforation of the gastric ulcer allows spread of inflammation along the gastrocolic ligament to the superior border of the transverse colon where fistulization may occur.

GASTRIC OUTLET OBSTRUCTION

5-10% of patients with peptic ulcer disease have gastric outlet obstruction. It is estimated that approximately 80% of these cases are due to duodenal ulcer (including pyloric channel ulcer), while gastric ulcer is a much less common cause (approximately 6%). Other causes include adult hypertrophic pyloric stenosis, acute pancreatitis, carcinoma, diaphragm, surgery and Crohn's disease.

DOUBLE PYLORUS

Double pylorus or gastroduodenal fistula most commonly occurs from the lesser curve of the antrum to the superior fornix of the duodenal bulb. Although some authors have proposed a congenital etiology most cases of double pylorus are probably secondary to peptic ulcer disease.

GIANT DUODENAL ULCER

Ulcers of the duodenal bulb measuring greater than 2-2.5cm are termed "giant". These ulcers may be missed entirely by radiographic examination as they may appear strikingly similar in configuration to the normal duodenal bulb. Many radiographic signs have been devised to differentiate the normal bulb from the giant ulcer. The most reliable sign is the absence of change in appearance of the ulcer throughout the examination.

POST-BULBAR ULCERS

Approximately 5% of duodenal ulcers occur within the descending duodenum. Almost all of these occur in the preampullary region, presumably because alkaline secretions entering the duodenum from the ampulle of Vater partially neutralize the acid secretions from the stomach. Post-bulbar ulcers have been shown to eventually lead to eccentric ring-like strictures in some cases and cause significant obstructive symptoms.

CHOLEDOCHODUODENAL FISTULA

The most common cause of biliary enteric fistula is cholelithiasis. The most common type of fistula is cholecystoduodenal. Choledochoduodenal fistulas account for 5-25% of all biliary-enteric fistulas; however, 80% of choledochoduodenal fistulas occur secondary to peptic ulcer disease.

PERFORATION

Perforation occurs in 5-11% of patients with

peptic ulcer disease. The most common site of perforation in the duodenum is the anterior wall of the duodenal bulb. 60% of perforated gastric ulcers occur along the lesser curvature.

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Detailed Examination of the Small Bowel

Igor Laufer, M.D.*

INTRODUCTION

The accurate radiologic assessment of the small bowel presents the radiologist with considerable problems. The small bowel follow-through examination, while widely performed, is frequently difficult to interpret in portions of the small bowel that are underfilled and poorly distended. In addition, the time sequence of overhead films performed does not allow the examination to be adequately tailed to points of interest. We have employed two examinations for the more detailed examination of the small bowel: (1) The double contrast small bowel enema and (2) the peroral pneumocolon.

1. The Double Contrast Small Bowel Enema

This examination allows detailed radiologic study of the small intestine. The double contrast small bowel enema provides both luminal distension and transradiancy. Thus, it allows the identification of luminal irregularity, wall thickening and the precise demonstration of the thickness and shape of the valvulae conniventes.

MATERIALS AND METHODS

The patient is prepared as for a barium enema, as the presence of feces in the ileum and colon degrade the examination quality.

INTUBATION

The patient is intubated perorally after topical anesthesia of the oropharynx obtained with cetacaine spray. We utilize the Herlinger modification of the Bilbao-Dotter tube. This tube is 135 cm long and has a single end hole; the flexible but not rotationally rigid guide is teflon coated, 0.5 cm shorter than the tube and has a curved tip. The tube is advanced until it reaches the stomach. The patient is then placed supine and under fluoroscopic control, then the tube is advanced past the ligament of Treitz.

BARIUM INJECTION

We utilize Micropaque powder at 85% W/V. The choice of barium preparation is critical as bariums that are not compatible with methylcellulose will give poor results. The barium is injected through 20 ml syringes at a rate of 100 ml

per minute. Approximately 200 ml should be administered before methylcellulose injection is begun.

METHYLCELLULOSE INJECTION

The double contrast effect is obtained with a 0.5% solution of methylcellulose. This is suitable because of the low diffusivity with a compatible barium (Micropaque). This feature allows it to propel the barium column while preserving the mucosal surface coating of barium which has been obtained.

The methylcellulose is injected using 50 ml syringes of a rate of 100 ml per minute or somewhat more slowly if there appears to be reflux of methylcellulose into the stomach. A total of 1-2 liters is administered until adequate transradiancy of the ileum obtained.

RADIOGRAPHY

The fluoroscope component of the examination is critical and compression spot films of the entire jejunum and ileum must be obtained. In addition supine, prone, RPO, LPO, overhead views are also routinely performed.

NORMAL FEATURES OF THE BOWEL ENEMA

An understanding of the normal appearance of the small bowel at small bowel enema is critical to proper interpretation of this examination. Normal luminal diameter for proximal jejunum is 3 - 4 cm, lower jejunum 2.5 - 3.5 cm and ileum 2.0 - 2.8 cm. The jejunal folds are generally 1.7 - 2.0 mm in thickness with ileum folds 1.4 - 1.7 mm in thickness. Folds greater than 2.5 mm in the jejunum or 2.0 in the ileum are considered abnormal. Generally, there are 4 - 6 folds per inch in the jejunum and 3 - 5 folds in the ileum.

CLINICAL APPLICATIONS

This examination is indicated whenever a detailed examination of the small bowel is required. This includes the small bowel obstruction, particularly partial obstruction, unexplained GI bleeding, the malabsorption states, and the evaluation of Crohn's disease, particularly to assess the extent of the disease prior to surgical intervention.

2. Peroral Pneumocolon

This technique yields the most detailed examination of the terminal ileum right colon. It con-

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sists of oral administration of a suitable barium suspension and air insufflation per rectum once the orally injected barium is observed to reach the right colon. Glucagon 1.0 mg. IV is helpful in establishing intestinal hypotonia and reducing patient discomfort during the examination. As the ileocecal valve is located postero-medially it is important to insufflate the colon with the patient prone as this will promote reflux of air into the terminal ileum.

PATIENT PREPARATION

Although we prefer to prepare the patient as for a barium enema, this is not essential. Surprising good results can be obtained when the examination is added to an upper GI with a small bowel follow-through with no additional preparation.

INDICATIONS

The examination is indicated whenever a detailed examination of the terminal ileum is required. It has been helpful in early inflammatory bowel disease, the evaluation of ileocecal anastomosis in patients with Crohn's disease or prior

carcinoma, as well as in clarifying questionable findings on the routine barium enema and the small bowel follow-through. In addition, the examination may be extended to provide a primary exam of the colon in patients unable to attend barium for the routine barium enema.

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Crohn's Disease: Unusual and Problem Cases

Jerry C. Phillips, M.D.*

Although the initial recognition of regional enteritis was of the terminal ileum with emphasis on small bowel involvement for many years, it is now widely recognized that any portion of the GI tract may be involved from the esophagus through the rectum. In addition to the usual symptom complex of abdominal pain and diarrhea many patients will present with signs and symptoms that are atypical. Hopefully, a review of some of the unusual and problem cases that we have encountered will increase your awareness of the many ways in which Crohn's Disease may affect the GI tract.

Some of the less common initial presentations of patients with Crohn's Disease are as follows:

- Abdominal Pain Without Diarrhea
- Symptoms of Peptic Ulcer Disease
- Abdominal Mass

- Signs and Symptoms of Small Bowel Obstruction

- Pelvic Mass With Changes of Extrinsic

- Inflammation in the Sigmoid Colon (BE)

- Cecal Changes Suggesting Carcinoma (BE)

- Perianal Disease

- Growth Retardation

In some of the patients we will discuss, the diagnosis of Crohn's disease was missed for years because of the atypical symptoms or failure to examine the entire GI tract radiologically. An examination of both the upper and lower GI tract is always necessary whenever Crohn's disease is diagnosed or suspected.

Since signs and symptoms may not be typical of Crohn's disease, barium studies demonstrating radiologic findings sufficient for diagnosis may be the first tip off of the patient's problem.

Involvement of the upper GI tract is uncommon to rare but there are case reports where

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Crohn's disease is limited to the stomach and duodenum. These patients will commonly be referred for symptoms of peptic ulcer disease. Esophageal involvement is especially rare and almost always accompanied by disease in the more distal GI tract. Gastroduodenal Crohn's disease is more common and also usually accompanied by more distal involvement. In the stomach the antrum is the most common site of inflammatory change with ulceration, fold thickening and narrowing and rigidity seen. Antral involvement is usually accompanied by duodenal Crohn's with similar changes of ulceration and narrowing of the bowel. The diagnosis has been missed preoperatively in several reports by failure to obtain a small bowel study when these changes are found on upper GI exam. One should also keep in mind the possibility of aphthous ulcers in the esophagus, stomach or duodenum as the only finding of early or minimal Crohn's disease.

In the small bowel there are radiologic findings that are practically pathognomonic of Crohn's disease that may be very helpful when the presen-

tation of the patient is atypical, such as with abdominal mass or small bowel obstruction with no prior history of inflammatory bowel disease. These are asymmetrical involvement of the small bowel wall producing pseudo diverticula, mucosal ulceration, and skip lesions.

Crohn's disease limited to the colon is still a troublesome diagnosis in many cases with occasional patients who are difficult to differentiate from chronic ulcerative colitis and occasionally mimicking other disease processes such as neoplasia. The reliability of radiologic criteria in establishing a firm diagnosis will be discussed.

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Crohn's Disease in Children

E. A. Franken, Jr., M.D.*

Approximately 15% of all patients with Crohn's disease have the onset of symptoms in childhood. In this age group clinical manifestations are somewhat different. Approximately one-third of cases present as nongastrointestinal disease. Common modes of such presentation include arthritis, growth failure, fever of unknown origin, and anorexia nervosa. The remainder have predominant gastrointestinal complaints, but these are nonspecific and may mislead the physician.

In the radiographic investigation of obscure abdominal pain in children small bowel examina-

tion is a necessity. In many cases of Crohn's disease the diagnosis is missed on initial radiographic study because of failure to examine the small bowel.

The radiographic appearance of Crohn's disease is similar to that of adults except for areas of involvement. Isolated small bowel disease is more common and terminal ileal involvement less frequent in children than adults.

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A New Look at the Esophagus

Igor Laufer, M.D.*

Double contrast examination represents a new look at the esophagus because of the subtlety of anatomic detail visible with this technique. Double contrast views are easily obtained by having the patient gulp a high-density barium suspension while in the upright position. Occasionally, esophageal hypotonia may be required and probanthine can be used for this purpose.

In normal cases, the esophageal mucosa has a perfectly smooth surface as seen en face and in profile. With collapse of the esophagus, the typical longitudinal folds can be seen. In some patients, an irregular, thin radiolucent line can be seen representing the d-line or squamo-columnar junction. In some patients, delicate transverse folds are seen in the midesophagus. This probably represents a normal appearance and we believe that this is due to contraction of the muscularis mucosae.

This technique is most valuable for the radiologic diagnosis of esophagitis. In reflux esophagitis, it is possible to demonstrate thickened folds, mucosal erosion and superficial ulceration. The erosions and ulcers frequently have a linear configuration. In patients with infectious esophagitis

such as moniliasis or herpetic esophagitis, there are small mucosal plaques which are only demonstrated by double contrast. In more advanced cases, there is marked roughening and nodularity of the mucosal surface.

Small tumors are also easily demonstrated with this technique. Benign mucosal tumors are uncommon although, occasionally papillomas are demonstrated. Occasionally, patients present with symptoms due to small esophageal carcinomas. These may appear as small polypoid filling defects or as localized areas of rigidity. Therefore, the radiologic investigation of any patient with esophageal symptoms should include double contrast views.

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An Approach to Evaluation of Esophageal Motility Disorders

Jerry C. Phillips, M.D.*

An assessment of the swallowing mechanism and motility in the body of the esophagus are an integral part of every GI study, but at times we tend to gloss over this portion of the examination while concentrating on any abnormality that may be present in the stomach or duodenum. After a brief review of normal motility in the esophagus we will discuss some of the common motility dis-

orders, stressing an approach to the examination and sequential steps that can lead either to a definitive diagnosis or the most likely causes of the patient's problem.

STEPS IN EVALUATION

I. Categorize Motility

Normal:

Hypoperistalsis

Aperistalsis

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II. Aperistalsis

- A. Diagnostic Considerations
 - Achalasia
 - Collagen Disease
 - Diabetes Mellitus
 - Chronic Alcoholism
- B. Most Common Differential Diagnosis is Achalasia vs. Collagen Disease
- C. "Mechoyl" Test is a Definitive Exam for Achalasia
- D. Details of Mecholy Test
 1. Urecholine 5-10 mg. SUB Q
 2. Positive Test: 5-10 minutes after injection there is diffuse contraction of the body of the esophagus usually associated with regurgitation.
 3. Essentially no change in normal patient or collagen disease
- E. Use AMYL Nitrite to Document Distensibility of E-G Junction

III. Hypoperistalsis

- A. Diagnostic Considerations
 - Collagen Diseases
 - Diabetes Mellitus
 - Chronic Alcoholism
 - Presbyesophagus
 - Diffuse Esophageal Spasm
 - Reflux Esophagitis

- B. Correlation with clinical information
- C. Use mecholy test in equivocal cases when there is diffuse dilatation

IV. Diffuse Esophageal Dilation But Normal Motility

- A. Look for a lesion at the esophago gastric junction
- B. Diagnostic considerations
 - Carcinoma at esophago-gastric region
 - Stricture or spasm post surgical reflux esophagitis caustic ingestion
 - Intramural or extrinsic lesions
- C. Techniques for further evaluation
 - Bolus (Barium tablet or marshmallow)
 - Amyl nitrite inhalation

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Vomiting and Abdominal Distention in the Neonate

E. A. Franken, Jr., M.D.*

I. Causes of Abdominal Distention

- A. Abnormal abdominal wall
- B. Intraperitoneal fluid or air
- C. Enlarged intra-abdominal organs (eg. polycystic kidneys)
- D. Intestinal distention
 1. Gaseous distention ('H' type tracheo-esophageal fistula)
 2. Fluid and/or air: paralytic ileus and intestinal obstruction

II. Absence of the Abdominal Muscle (Prune Belly Syndrome)

Almost exclusively male involvement. Clinical features of distended but flaccid abdom-

inal wall with "prune" characteristics. Undescended testes. Urinary malformation in most with varying degrees of renal hypoplasia, alternating dilation and stricture of the ureters, urachal remnants attached to bladder, and dilatation of the prostatic urethra associated with prostatic hypoplasia.

III. Ascites In The Neonate

Frequently associated with generalized anasarca (eg. erythroblastosis). Isolated ascites in the neonate due to antenatal intestinal perforation (meconium peritonitis), neonatal cirrhosis, antenatal urinary tract obstruction (eg. prostatic urethral valves).

- A. Radiographic features of ascites: "float-

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ing" and separation of bowel loops, displacement of colon from peritoneal fat, visualization of lateral border of liver. Ultrasound more sensitive than plain film radiography.

- B. Antenatal urinary tract obstruction. Back pressure from hydronephrosis produces perirenal urinoma. Renal capsule acts as osmotic membrane with seepage of fluid into the peritoneal cavity. Diagnosis by excretory urography, cystourethography, and ultrasound.

IV. Intestinal Obstruction In The Neonate (In Anatomic Order)

- A. Pyloric atresia: rarest site of atresia in the gut. May be familial or associated with epidermolysis bullosa.
- B. Gastric ileus resembling pyloric atresia. Much more frequent than pyloric atresia. Due to paralysis of the stomach and pylorospasm. Most often from hypoxia, sepsis, or shock.
- C. Duodenum: common causes of obstruction are duodenal atresia, stenosis, malrotation with peritoneal bands. Annular pancreas is a pathologic entity associated with duodenal atresia or stenosis rather than a separate entity.
 - 1. Complete obstruction with dilatation of the duodenum. "Double-bubble" indicates duodenal atresia, no studies necessary. Equivocal cases can be confirmed by installation of air into stomach and radiographs in inverted position. Positive contrast material not indicated.
 - 2. Incomplete duodenal obstruction. Most often from malrotation, occasionally web or preduodenal portal vein. My personal preference is study by oral barium to confirm type of obstruction. Others prefer barium enema to demonstrate malrotation.
- D. Jejunal obstruction: usually from atresia, occasionally duplication or volvulus. Oral contrast study unneeded. I would suggest barium enema to exclude associated colon atresia.
- E. Ileum: two major causes are ileal atresia and meconium ileus. Plain film differentiation is usually impossible, main diagnostic method is contrast enema.
 - 1. Ileal atresia: the contrast enema fills a moderately small colon in rapid fashion, with reflux into normal terminal ileum.
 - 2. Meconium ileus: almost all are associated with cystic fibrosis. Obstruction is secondary to abnormal intraluminal meconium. About 50% of cases have complications (atresia, volvulus, gut perforation). Contrast enema fills the colon with difficulty and outlines abnormal meconium in terminal ileum. Gastrografin enema is of value in complicated meconium ileus to wash out the abnormal meconium and thus avoid surgery.
- F. Colon: colon atresia is rare, other causes much more frequent.
 - 1. Meconium plug syndrome: occasional neonate has difficulty expelling first stool of meconium. Often cured by contrast enema. Beware of Hirschsprung's disease in these children.
 - 2. Hirschsprung's disease: absence of ganglion cells beginning at the anus and extending a variable distance proximally, usually to the rectosigmoid junction. Two-thirds of cases present in the first week of life with vomiting and intestinal distention. Plain films indicate low obstruction and are not always diagnostic of obstruction in the colon. Barium enema is the principal diagnostic method, outlining a disparity between the normal to small size rectum and dilatation of the proximal colon. Essential elements of barium enema technique include no prior preparation of the colon and avoidance of rectal balloon. Delayed films (24 to 48 hours) may be of value in equivocal cases.
- G. Imperforate anus: complicated problem with many possible variations. Types differ in male and female. The main problem is to determine the level of ter-

mination of the rectum in relationship to the pelvic sling, and to detect associated fistula. Radiology and physical examination are of equal importance.

V. Paralytic ileus. Extrinsic stimuli (sepsis and hypoxia in the neonate) produce gut paralysis.

- A. Clinical features closely resemble mechanical intestinal obstruction: vomiting and abdominal distention.
- B. Radiographic findings - the small bowel may be more dilated than the colon in the neonate, thus resembling intestinal obstruction. Barium enema examination

may be misleading. Main differentiating features are clinical. If in doubt do oral contrast examination after duodenal intubation.

VI. Summary

- A. Differential diagnosis of intestinal distention includes disease of abdominal wall, peritoneal cavity, intra-abdominal organs and intestinal distention.
- B. The type of radiographic study in neonatal intestinal obstruction varies by suspected area and diagnostic possibilities.
- C. Beware of paralytic ileus resembling intestinal obstruction in the newborn.



Endoscopy in Upper GI Bleeding

Wilma C. Diner, M.D.*

A National Institutes of Health Consensus Development Panel, convened in August 1980, was asked to address the following questions:

1. What are the benefits of endoscopy in upper GI bleeding?
2. What is the place of other diagnostic approaches to upper GI bleeding?
3. What are the considerations in the decision as to whether to perform endoscopy.
4. What are the risks of endoscopy in the bleeding patient?

This common problem involving the gastrointestinal tract still results in a significant mortality which has not decreased substantially in recent years in spite of improvement in diagnostic accuracy and innovations in therapy. Upper GI endoscopy is an example of rapidly evolving technology, the use of which has increased rapidly in recent years. In the presence of acute upper GI bleeding, expertly performed endoscopy appears to offer the best available method for identifying the site of the bleeding lesion. The diagnostic accuracy of endoscopy is greatly dependent upon the skill and experience of the endoscopist and the adequacy of facilities, equipment and supporting personnel. Individuals with minimal training are likely to experience diagnostic error and an increased complication rate.

Precise determination of the location and type of a bleeding lesion may be of singular value to the surgeon operating upon a patient with upper GI hemorrhage. The nature and timing of the surgical procedure is often dictated by the specific lesion present. The location of the lesion may determine the appropriate incision and avert the need for unnecessary intraoperative maneuvers which might increase morbidity and mortality. A major benefit of precise diagnosis is the avoidance of inappropriate operations. In spite of the increased diagnostic accuracy with endoscopy, there is no clear evidence of reduction in morbidity and mortality resulting from surgery. Carefully controlled studies in this area are urgently needed.

Nevertheless, information obtained from endoscopy may help the physician to avoid the use of potentially harmful techniques, may suggest discontinuance of ineffective therapy, or identify a lesion the course of which may be affected by therapy.

Therapeutic endoscopic methods for the control of GI bleeding need to be investigated using large scale clinical trials.

Single contrast upper GI series has been found in comparison studies to be one half as accurate as endoscopy in identifying upper GI lesions responsible for bleeding. There is evidence that expertly

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performed double contrast techniques approach the accuracy of endoscopy. Drawbacks of barium studies include obscuring the field for endoscopy or angiography, complicating surgery, creating difficulty in obtaining an adequate examination in an uncooperative patient, causing inaccuracy of diagnosis in the presence of retained blood, and requiring repeated radiation exposure. Angiography is generally not as accurate as endoscopy and rarely identifies a bleeding lesion unless the blood loss is 0.5cc's per minute or greater. It does, of course, allow for therapy of some bleeding lesions. Radionuclide scanning is a promising noninvasive screening technique for localization of GI bleeding which needs further evaluation.

Complications of endoscopy are generally rare and are more common in patients with heart, lung, renal, and liver diseases and in immunosuppressed patients. The procedure must be per-

formed in an area where resuscitation facilities are readily available. The complication rate is higher when the procedure is done as an emergency. Complications include aspiration, thrombophlebitis following intravenous medication, rarely perforations, and occasionally aggravation of bleeding, particularly if a biopsy is performed. The transmission of infection by endoscopy is extremely rare and is avoidable by appropriate mechanical cleansing and disinfection.

In summary, although endoscopy is an excellent tool for differential diagnosis in upper GI bleeding, the lack of demonstrated effect on overall mortality strongly suggests the need to use the diagnostic information obtained as a stimulus for further vigorous investigations of different and newer therapies for the different lesions causing upper gastrointestinal bleeding.



Abdominal Pain

E. A. Franken, Jr., M.D.*

Abdominal pain in infants and children can be either acute or chronic. In the majority of patients with chronic abdominal pain functional factors are more important than organic disease.

Acute abdominal pain and its differential diagnosis are associated with evaluation of the acute abdomen. Diagnostic possibilities vary by the age of the patient. In the neonate sepsis is the usual cause of the nonsurgical acute abdomen. Peritonitis and congenital intestinal obstruction are surgical causes. In the infant colic and gastroenteritis are medical causes, while intussusception, appendicitis, strangulated hernia, and Meckel's diverticulum are the usual surgical conditions. Beyond infancy appendicitis is by far the most common ailment to be considered.

Chronic abdominal pain is a common childhood complaint. In approximately 90-95% of cases the pain is functional in origin. A careful

history and physical examination will eliminate the need for radiographic studies in the majority of these patients. Organic causes of chronic abdominal pain are equally divided between those of the gastrointestinal and genitourinary tracts. Organic disease should be suspected with onset of symptoms before age four or after age thirteen, pain located away from the midline, genitourinary symptoms, or a family history of gastrointestinal disease. In the radiographic investigation of the child with chronic abdominal pain, the examination of the small bowel is of more importance than that of the stomach and duodenum. Small bowel disease, particularly regional enteritis is much more frequent than upper gastrointestinal abnormalities, such as peptic ulcer.

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Academic Psychiatry in Arkansas^{fn1}

William G. Reese, M.D.^{fn2}

This is a report to interested persons of present and past events of the Department of Psychiatry and Behavioral Sciences (DPBS) of the College of Medicine of the University of Arkansas Medical Sciences Campus^{fn3} (UAMS) and of my professional past. I shall use the first person singular pronoun liberally. On the last day of January, 1981, I completed thirty years of chairmanship of the Department. To my knowledge, no other chairman has served this medical school for as long and, excepting H. N. Marvin,¹ who joined the medical school faculty in 1942, few have been faculty members longer. As chairman, at the time of this submission, I had outlasted five chief executives of the University of Arkansas, four of the medical campus, five University Hospital directors and three medical school deans.

Since our beginnings as a Department in 1948, we had helped educate, by 1980, 2,880 medical students who received the M.D. degree at Arkansas.^{fn4} Throughout its history, our School has awarded 4,863 such degrees, thus our department instructed 60 percent of the total recipients with over half of the total during my tenure. For a decade prior to 1980, our completing junior students had the highest local average National Board scores in psychiatry as compared to other clinical fields. In 1980, we were in a middle position but still led in FLEX scores in Behavioral Sciences (a freshman course initiated by Dykman) and in Psychiatry. Our curriculum time has increased from 110 hours to about 370 hours.

At the residency level, Arkansas programs have trained 154 residents and well over half of approximately 100 active psychiatrists in Arkansas. Seventy percent of the psychiatry residents from these programs remained in the State.² In our Department, 42 interns in Clinical Psychology were trained from 1962-80.

We have established programs for training of school teachers in special education, for longitudinal continuing education for physicians and other professionals, and pre-professional degree courses. Each of these programs has been very successful in the quality and quantity of participants.

We have developed major research thrusts in (a) learning disabilities, hyperactivity and atten-

tional deficits related to minimal brain dysfunction (especially Dykman,^{fn5} Peters, Clements, Ackerman, *et al.*) and (b) the nature of psychopathology and correlates in a genetic line of nervous pointer dogs (especially Dykman, Peters, Murphree, Newton, Reese,³ C. Angel, D. DeLuca, *et al.*) In 1963, Dykman was co-founder of the Campus Computer Center and founder of the autonomous Division of Biometry. He is an editor of the *Journal of Learning Disabilities* and from 1962-75 an editor of *Psychophysiology*.

Our UAMS-salaried faculty has increased from three to 37 (see Appendix) and our annual budget from \$30,000 to \$2.8 million (about 40 percent from the State Treasury). The list of 136 former faculty members includes: 44 UAMS-salaried and 92 voluntary.^{fn6} We have secured several million dollars from education and research grants and about a two million dollar endowment for research. We have initiated the construction of one floor of University Hospital and of the Rockefeller Sundeck above and the Child Study Center Building (which awaits expansion and a name from another large donor).

I shall report other aspects of the present status of the Department and recount my view of how we came to this position. I shall intersperse opinion and fact; I have letters, memoranda and reports to back up the latter. I well know the human tendency to appropriate quite innocently the ideas of others and the tendency to minimize or distort painful events. I shall slight patients, students, residents, staff and faculty members who were largely responsible for any successes (and partly responsible for some of our failures). Mainly, I have worked very hard to facilitate and catalyze the work of others and to help obtain salutary physical and psychological environments.

Our medical school has operated with a system of "strong" deans and "strong" chairmen. (Incidentally, our current woman chairman Dola Thompson, Anesthesiology, prefers such title to that of "chairperson." For expositional ease in this treatise, I shall generally use the masculine pronoun forms.) In the organizational structure of our medical school, the Chairman is accountable to the Dean for departmental functioning and responsible to his faculty members for the

development of the necessary means for their professional pursuits.

Baird's excellent *Medical Education in Arkansas*⁴ virtually ignores chairmen; his book being mainly an account of the accomplishments of deans and chief executives. This is customary and appropriate since little can move for long without sanction and leadership from above. Officials are credited, often retrospectively, for what goes right and blamed, often currently, for what goes wrong. To get things done, each of the four deans who were my superiors took actions which were not authorized by their superiors. Nicholson knowingly challenged one president. One of our best deans was somewhat privately labeled "insubordinate" by his "boss."

After summarizing current status, the developmental account will be organized partly chronologically, by epochs of medical school deans, and partly topically, particularly with respect to residencies, internship and to my extra-departmental activities. Characteristically, I shall speak freely and will take full responsibility for the contents of this manuscript.

Current Status of Academic Psychiatry

I believe that the essence of the institutional mission is to improve the health of all people, particularly Arkansans, through education, research and service. Educational activities enhance the health (most frequently by reducing disease and its effects) of present and future patients and/or family units; in sum, research activities contribute greatly to future well-being; exemplary service activities promote clinical care, clinical education, public education and clinical research. The compatible mission of DPBS is to employ its multidiscipline expertise in appropriate support of the institutional mission. To do so, we depend considerably upon the staffs and facilities of the Arkansas State Hospital (ASH), both Divisions of the local VA consolidated hospital, the Area Health Education Centers (AHEC) and Arkansas Children's Hospital (ACH).

The immediate on-campus facilities for DPBS consist of eight rooms on the seventh floor of University Hospital for "headquarters," consultation, conference, neuropsychological evaluation and clerical functions; ten child beds on the same



DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES

Clinical Faculty Roster*, July 1, 1981 with year of first faculty appointment

Honorary Professors (with appointment year)

Charles C. Ault 70
Eaton W. Bennett 76
Robert G. Carnahan 81
Ewin S. Chappell 75
John G. Howard, Jr. 76
*George W. Jackson 76
Oscar Kozberg 79
Louis V. Manley 68
Charles V. Taylor 68

Clinical Professors

W. Payton Kolb 50
Oddist D. Murphree, PhD 55

Associate Clinical Professors

Charles S. Betts 58
Joe H. Dorzab 75
Henry G. Hearnberger 68
W. Joseph James 73
Randolph Murphy 73
Aubrey C. Smith 68
Frank M. Westerfield, Jr. 64

Assistant Clinical Professors

John G. Althoff, PhD 70
Joe T. Backus 73
Max A. Baker 75
Jerry D. Blaylock 75
Spencer H. Brown 76
Thomas G. Burford 77
John V. Busby 68
A. Pat Chambers 76
Farangis A. Dehkharghani 79
Paul E. Desrochers 80
Daniel H. Donahue, PhD 72
David B. Fraser 68
Henry H. Good 65
William T. Granger 80
Alastair Guthrie 75
T. Stuart Harris 64
Frank M. James 75
Travis Jenkins 75
Edwin C. Jones 75
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Thomas R. Koehler 77
Gregory S. Krulin 77
William Migden, DO 80
Linda M. Parker 79
William C. Peel, Jr., PhD 78
Edwin F. Price 77

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Albert F. Rosendale 70
Marianne Seidel 80
Warren B. Seiler, Jr. 78
Wanda J. Stephens 66
Wen-Hsuan Treece 80
Edwin W. White 80
Lloyd Young 67

Clinical Instructors

James A. Chaney, PhD 80
Shirley J. Henze, MSE 78
Ronald E. Huisman, PhD 75
Glenn H. Lowitz, PhD 79
John A. Mangiaracina, PhD 80

William G. Reese
William G. Reese
Professor and Chairman

*MD unless otherwise indicated.

**Distinguished Service Award recipient.

floor, and the Rockefeller Sundeck above; about one-third of the fifth floor of the Barton Research Wing; the UAMS Psychiatry Clinic (originally built by Dr. James Wortham) at 4015 West Capitol; and the three-floor Child Study Center.

For service and educational purposes, there are about 450 beds at ASH and 550 psychiatric beds at VA. Many psychiatric consultations are performed at University Hospital and at each of the affiliated hospitals. Outpatients are abundantly present in each of the institutions. On the one hand, the Child Study Center serves DPBS as the base for the Division of Child Psychiatry, and on the other hand, serves the Arkansas Mental Health Services as the child component of the Greater Little Rock Community Mental Health Center.

In each year, the total DPBS has direct teaching contact with about 350 medical students; 12-16 psychiatric residents, 3-4 psychology interns; several house-staff members of other departments, particularly Pediatrics and Family Practice; about 100 elementary school teachers; nurse candidates for undergraduate and graduate degrees and for nurse practitioner specialization; other candidates for baccalaureate and master degrees; and

longitudinal continuing education for a variety of professionals. In the latter category, aggregate total contact amounts to about 6,000 hours per year.

In total, faculty members contribute about 20 scientific papers per year; rather few individuals account for most of this research productivity. Since I do not believe in attachment of my name to the work of others merely because I am Chairman, my sparse average is about one paper per year. In his career at Arkansas, Dykman has published 70 journal articles, 56 research papers, 15 monographs or book chapters, 15 review articles and about 80 abstracts. For the majority of these, he has been sole or senior author. In recent years, Peggy T. Ackerman has been his most frequent co-author. Other frequent publishers are Peters, Clements, Henker (psychosomatic head), Golden and, until recently, Murphree. Clements⁵ was Project Director, 1964-69, of the National Project on Minimal Brain Dysfunctions in Children, co-sponsored by NIH and U. S. Office of Education.

The present excellent clinical, research and education programs at CSC include medical student education, education of psychiatric and



DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES

Faculty Roster*, July 1, 1981, with year of first faculty appointment

William G. Reese, M.D., Professor and Chairman 51

DIVISION OF GENERAL PSYCHIATRY:

Robert F. Shannon, MD, Professor and Head 60
John L. Delk, PhD, Professor 73
Fred O. Henker, III, MD, Professor 58

Associate Professors

Emile P. Eckart, MD 75 Richard R. Nolen, MD 61
Henry L. Lambert, MD 61 Richard H. Sundermann, MD 61
Robert R. Matthews, MD 64 James L. Thomas, MD 79
Joseph E.O. Newton, MD 68

Assistant Professors

Douglas A. Brown, PhD 81 Morris S. Levy, MD 69
M. Rae Barnes, PhD 70 Mary K. Lewallen, MS 70
Robert E. Drom, MD 79 Robert B. Nisbet, MD 80
E. Hope Gibson, MD 71 Joseph B. Pierce, MD 80
R. Harvel Harrison, MD 69 G. Richard Smith, MD 81

DIVISION OF CHILD PSYCHIATRY:

John E. Peters, MD, WOHMAN Professor and Head 54
Sam D. Clements, PhD, Professor 60
S. Otho Hesterly, PhD, Associate Professor 61
Irving C. Ringdahl, Associate Professor 72

Assistant Professors

Marcia A. Anderson, MA 69 Stanton A. McGill, Jr., MSW 71
Larry E. Clarke, PhD 74 Helen Nugent, MSW 72
Joanna E. Davis, MS 69 Nicholas P. Paal, PhD 75
Kenneth M. Golden, EdD 75 Julia M. Wepfer, PsyD 69
Cleo M. Goolsby, MSW 69 Patricia L. Youngdahl, MA 67
David S. McCray, MD 75

Instructors

A. Jane Beazley, MSW 75 Joe C. Gaddy, MSE 75-76, 80
Susie Bryant MSE 76 M. Patricia Welch, PhD 81

DIVISION OF BEHAVIORAL SCIENCES:

Roscoe A. Dykman, PhD, Professor and Head 55
**Robert C. Walls, PhD, Professor 75 (Biometry)
**Phyllis Thomson-Rountree, Assoc. Prof. 75 (UALR)
**Linda T. Bilheimer, PhD, Asst. Prof. 75 (Biometry)
**Carol J.R. Hogue, PhD, Asst. Prof. 79 (Biometry)
**Lois C. Malkemes, PhD, Asst. Prof. 75 (Nursing)

*Does not include Research Associates, Assistant Instructors or Clinical Faculty.

**Joint secondary appointment.

William G. Reese
William G. Reese, MD

pediatric house-staff, internship in clinical child psychology, teacher training in special education, outreach programs to public schools, and model treatment programs for children.

The updated for 7/1/81 appendix lists, except for Assistant Instructors and Research Associates, 96 faculty members of DPBS (nine Honorary and five with primary appointments in other departments). The 89 active faculty members with primary appointments are distributed as follows: UAMS, 28; ASH, 20; VA, 8; AHEC, 19; private practice, 12; other, 2. Of these, 58 are psychiatrists, eight of whom are on campus. In addition to faculty support, annual expenditures of DPBS at UAMS include salaries and wages for an additional 47 individuals. Even for UAMS-salaried faculty members, the participation in strictly academic pursuits varies greatly, with the strongest determinant being the source of salary support. By 1980, seventeen members of the full-time faculty with primary appointments in DPBS had served for ten or more years (the years in parentheses and full names in the appendix): Reese (30); Dykman (25); Peters (24); Henker (23); Clements (21); Hesterly (20); Shannon (18); Matthews (17); Youngdahl (13); Anderson, Davis, Edgington, Goolsby and Wepfer (12); Gibson and McGill (10). Two current voluntary faculty members, Carnahan and W. P. Kolb, have served for 32 years.

On campus, DPBS is organized into three formal Divisions: *Child Psychiatry* (always headed by Peters), which began as Child/Adolescent Psychiatry in 1967 and dropped the Adolescent part of the designation in 1979; *Behavioral Sciences* always headed by Dykman), beginning in 1975; and *General Psychiatry* (always headed by Shannon), which began as Adult Psychiatry in 1977 and assumed the present name in 1979. The Divisions have executive responsibility. The advisory Sections, organized by discipline to enhance professionalism in designated areas, consist of: Psychiatry, Psychology, Social Work and Special Education. Educational and research pursuits are task and program oriented without restriction by divisional or sectional organization. Shannon heads the residency and junior clerkship.

DEVELOPMENT

Early Background of Academic Psychiatry in Arkansas

Prior to academic year 1947-48, there was no Department of Psychiatry in our medical school.

Psychiatry had been taught here mainly through clinical demonstrations provided usually by the incumbent superintendent of the Insane Asylum, or later, Mental Hospital. It is worth noting, as does Henker,⁶ that Dr. P. O. Hooper was a member of the first Board of the "Arkansas Lunatic Asylum" in 1882, that he was the first dean of the University of Arkansas Medical School and that he became Superintendent of the Asylum in 1885. Henker notes that the school had a Department of Nervous and Mental Diseases from 1912-1916 under the direction of Dr. J. L. Green, who was primarily State Hospital Superintendent.

The Bulletin for the School of Medicine for 1925-26, lists Patrick Murphey as Clinical Professor of Nervous Diseases; Louis R. Brown as Professor of Psychiatry and A. W. Strauss as Professor of Nervous Diseases, each of whom were faculty members of Division V—Medicine and Medical Specialties. The psychiatric curriculum included 68 didactic hours and 102 clinical hours, with lectures and demonstrations in psychiatry presented at the Arkansas State Hospital. By 1946-47, the faculty of the unit consisted of Pat Murphey, A. C. Kolb, C. A. Arkebauer, Elizabeth Fletcher and N. T. Hollis.

Beginnings of a Modern Department

The separate Department of Neuropsychiatry was established in 1947-48, probably in January, 1948, during the tenure of President L. W. Jones. The founding pioneers were H. C. Chenault, Vice President for Education and Hospitals, W. C. Langston, Acting Dean, H. W. Sterling, Manager of VA Hospital, North Little Rock (VANLR), George W. Jackson, Superintendent of the Arkansas State Hospital (ASH), T. T. Ross, State Health Officer and C. N. Baganz, Director of Professional Education, VANLR. From federal grant-in-aid funds through the Health Department (the first "State Mental Health Authority"), an excess frame building was moved from Camp Robinson to the southeast corner of the McAlmont medical campus and renovated.

Baganz became the first Head of the Department of Neuropsychiatry, but left after a year. For the Division of Psychiatry, the 1947-48 Bulletin lists the following faculty members. Professors G. W. Jackson and A. C. Kolb; Associate Professors Ault, Beck, Bounds, Faust, Harkey, Hollis, Judah, Stathakis and Walsh; and Assistants (residents) Case, F. Howard, Josephs and W. P. Kolb. Following Baganz, the Acting Heads,

also Directors of Professional Education at VANLR, were W. Rottersman (1948-49) and E. S. Chappell (1949-51). Student instruction and Mental Hygiene Clinic operations were accomplished mainly by volunteer faculty from VANLR and a few from ASH. Mainly federal funds provided for full-time employment of a psychiatrist, clinical psychologist, social worker, psychometrist, stenographers and an EEG technician. John Poe was employed as full-time Head of the Department in May, 1950, but died three weeks after assuming his duties. Frances Shively, MSW, was employed in July, 1950 and E. F. Erwin, Ph.D in Clinical Psychology, in September, 1950. I was appointed Professor and Head of the Department effective February 1, 1951.

The Beginnings of Neurology

Neurology was organized as a Division of the Department of Neuropsychiatry from 1948 through 1950-51. The faculty for 1947-48 consisted of Mark Zeifert, who stayed briefly as Associate Professor and Head; Professors P. Murphey, E. L. Wilbur; Associate Professors R. A. Burger, L. A. Cohen, G. B. Fletcher, A. W. McCullough, A. D. Rosenthal, H. W. Sterling, T. J. Thomas; and Assistant Professor D. E. Fletcher. Most of these individuals had primary appointments at VANLR or in other departments of the medical school. Patrick Murphey, first appointed to the medical faculty in 1913, became Emeritus Professor of Neurology in 1952.

On June 23, 1951, the department officially became the Department of Psychiatry and Neurology. Dean Nicholson approved my recommendation to split the Department and this was accomplished on September 1, 1951, with the new Department of Neurology headed by W. K. Jordan, a Harvard and New York-trained Pine Bluff native, who came highly recommended by the prominent neurologist, Houston Merritt. Jordan helped me convince Dean H. C. Nicholson to request an additional floor for University Hospital at the Markham Street site. The half of this floor assigned to Neurology was determined by a coin flip. The shell was completed within a year after the new hospital opened in 1957.

Jordan designed offices and neurochemical research labs in his half of 7B. I had great, but unrealized, hopes that neurochemical research in Arkansas would help unravel some of the mechanisms or causes of brain disease. During these early days, funds were insufficient to staff

7C for neurology and neurosurgery, and I provided half of 7A for their patients. This interim arrangement was quite unsatisfactory, particularly from a nursing standpoint. Jordan hired a neurosurgeon, a biochemist and others. (Neurosurgery later reverted to the Department of surgery and in 1975 became a full department).

We began residencies in psychiatry and neurology, with the first year combined, in July 1957. The first residents were R. F. Shannon, James Thomas and Sik Quan Jew. Thomas and Jew became neurologists. During his first year, Shannon decided to shift to psychiatry and became the first to complete the residency (in a program which he now directs).

At the time Jordan resigned in June, 1960, Dean Lawrason (contrary to my request) demoted Neurology to a Division of the Department of Medicine, where it languished for some time. David Sinton was recruited as Head and served during 1963. Before and after Sinton's accidental death, although Neurology was a Division of Medicine, the major responsibility for neurological service fell on faculty members of the Department of Psychiatry. Dennis Lucy, who began his residency with Jordan, completed training at Iowa and returned here in 1966 to head a more or less autonomous division which, in 1975, was again elevated by Dean Bruce to a full Department. The road toward excellence in Neurology has been tortuous. I leave an adequate account to others.

Psychiatric Climate, Post World War II

World War II spotlighted extensive psychiatric problems of draft-eligible young men and generated and/or exposed many psychiatric problems in draftees and volunteers. The Armed Forces established remarkably good psychiatric services considering the fact that many physicians, like the writer, became "psychiatrists" after four to 12 weeks of intensive training in military schools.

During military service, many physicians became interested in psychiatry as a career. Post-war, the Veterans Administration, which had been elevated from Bureau to Department status in 1930, was greatly improved by new affiliations with medical schools through Deans Committees. In the U. S. Public Health Service, Robert Felix led his bureau, by 1949, into the National Institute of Mental Health (NIMH). The first Mental Health Act (of 1946) provided grant-in-aid funds to states and small grants to medical schools for

the development of psychiatric instruction for medical students. These grants helped spawn many departments in medical schools, including our own.

During this period, neurology was moving to greater specialization, more autonomy and closer alignment with internal medicine and with pediatrics than with psychiatry. In this move, each of the three fields gained and each lost.

On the local scene, Arkansas was indeed fortunate to have the far-sighted pioneers mentioned earlier. Chenault left our institution to become NP Chief at Army-Navy Hospital in Hot Springs. Jackson was Superintendent of ASH from 1946-51, and Supt. or Commissioner from 1961-79 and a recipient of the School's Distinguished Service Award (DSA); H. H. Donahue was Executive Officer of VANLR from 1946-49, and Director of Research and Education at ASH from 1949-51, and later Commissioner of Mental Health for Oklahoma; Sterling was Manager or Director of VANLR from 1946-59 and of VALR Consolidated Hospital from 1959-65. He was the first DSA recipient from the Department.

During these early post-war days, there was great excitement and accomplishment at Fort Roots. By the sixties, the limelight for adult psychiatric services had shifted to ASH and for child psychiatry and residency training to our department. The "new" VA Hospital at Roosevelt Road opened in 1950 under the Manager/psychiatrist, Delmar Goode, who left in 1958. Dr. Goode was less than enthusiastic about the new Deans Committee arrangement.

The Nicholson Years (1950-55)

Hayden C. Nicholson was appointed Dean of the School of Medicine effective October 1, 1950. I went on the medical school payroll as Professor and Head of the Department on 2/1/51 and began my duties about one month later. Before accepting the offer, I visited Nicholson in his Washington Office where he had been Secretary of the National Research Council. I accepted the appointment because of my very favorable impressions of Nicholson and of other persons and circumstances mentioned earlier. The medical school had fine plans for a new plant. I was too naive to know that the proposed construction had not been funded. I witnessed the great excitement just before adjournment *sine die* of the General Assembly which appropriated construc-

tion funds from the two cents per package levied on cigarettes.

There were other excitements during Nicholson's deanship. As indicated above, Jordan and I easily enlisted Nicholson's successful efforts to add an additional floor to University Hospital for psychiatry and neurology and clinic space for both fields. As discussed below, I initiated the proposal for educational support to the School from the Commonwealth Fund.⁴ (p. 243) Quality and quantity of instruction improved.

I did not come for the money. My initial salary was \$10,000 per annum with little time available for the allowed practice supplementation. The departmental budget, including neurology, was about \$30,000 per annum which was mainly funded from federal sources. I inherited two full-faculty members.

Nicholson was a man with foresight and courage. He may have lost the war, but he won the battle with President Caldwell to augment the salaries of I. Meschen in Radiology and R. V. Ebert in Medicine (mainly with Win Rockefeller money). In relation to this and other matters, Nicholson's tenure at Arkansas became untenable; but he was a restless man ready for new adventures elsewhere.

Lawrason's Term (1955-61)

The seeds for much of the progress of Lawrason's term as Provost and Dean were planted before he came. The Department of Psychiatry opened an inpatient unit for adult psychiatric patients (1958-77); initiated an approved residency in psychiatry (which has been continuously approved and supported by NIMH since 1958); received in 1955 an NIMH grant to establish a research program in psychology and psychiatry, headed by R. A. Dykman; received a generous grant from Commonwealth Fund to study renal conditioning in dogs (with Dykman and S. A. Corson as co-investigators); and occupied part of the fifth floor of the T. H. Barton Institute for Medical Research. We expanded considerably the NP Research Laboratory at VANLR (directed by O. D. Murphree). Dykman was awarded NIMH additional research funds for this laboratory (which was well-supported by the VA from 1955-77). In this Lab, Dykman, J. E. Peters and O. D. Murphree bred, developed and investigated the Arkansas Line of Nervous Pointers and the

counter-part normal line. Newton and others joined later.

Obviously Lawrason was supportive, but contrary to my wishes and advice he eschewed further development of the teaching project funded by Commonwealth and demoted Neurology to divisional status.

Shorey's Deanship (1961-74)^{fn7}

The long term of Winston K. Shorey was pleasant and productive for us. We improved our teaching programs, continued to receive generous training and research support from NIMH, established R. R. Matthews' excellent continuing education program, first for physicians and later for other professionals as well. (This latter program has been continuous since 1965 and was funded for the first ten years by NIMH). S. J. Fields established an NIMH-supported internship in clinical psychology in 1962 and directed this until followed by Sam D. Clements in 1972.

In early 1959, we programmed and hosted a highly successful two-day Regional Research Conference of the American Psychiatric Association. This program featured the investigation of students and psychiatric residents in the South and was the prototype for broader student research conferences which were later established in Texas. On 5/16/66, we commemorated the Jeannette and Winthrop Rockefeller Sundeck from their donation for the purpose.

Soon after his arrival in 1954, John Peters became director of child psychiatry and in 1967 Head of the Division of Child/Adolescent Psychiatry. In 1962, Peters and his group began an NIMH-funded liaison program to pediatrics (which has been continuous and recently renewed with the addition of liaison to family practice). From 1962-64, Peters was Co-Director of the Pavlovian Laboratory at Hopkins. From 1964-67, upon his return here, Peters directed our basic psychiatry residency program.

Strongly supported by Vice President Whaley and by the Chairman, Peters and S. D. Clements (now Executive Director of Child Study Center), worked successfully for a construction grant to build the Child Study Center with funds from a federal/state match. The Arkansas portion consisted of half appropriated by the General Assembly and half transferred by George Jackson from ASH funds. The potential remaining deficit, for three of the desirable four floors, was guaranteed

by Rockefeller from the Governor's contingency fund. The site chosen was the one most likely to be adjacent to a new Children's Hospital (which did not materialize). Ground for CSC was broken on 3/11/68, construction was completed in August, 1969 and the building was in functional use in October. Eligibility for the federal construction funds depended upon the fact that the Child Study Center also became the child component of the Greater Little Rock Community Mental Health Center. This arrangement also enabled federal staffing grants. One of the unusual assurances to the U.S.P.H.S. is that CSC will continue to provide the "five basic services" for children until 2020 A.D.

In retrospect, another important event from the Whaley administration was our initial contact in the mid-sixties with a later beneficent donor, Marie Wilson Howells, an Arkansas native, who then lived in New York City. (The town of Marie, in the Wilson "territory," is named for her). Apparently the main Campus had early attempted to enlist her support of the Fine Arts Department, during President Caldwell's term. Instead, she opted for psychology and psychiatry. At her first known visit to our Campus, Whaley asked me to show her around, and she seemed quite impressed by our then rather limited activities in limited space. Storm told me that she was a nice lady, but did not say that she was wealthy and a potential donor. I remember her as a small, pleasant, unassuming but interested lady. She got to our Campus, and presumably to Fayetteville, through Louis and Jeane Hundley. On later visits, her tour guide and informant was John Peters who corresponded with her on several occasions, especially to keep her updated as to progress in child psychiatry and in the child research with Dykman. During a long period, Jeane Hundley remained her friend, visited her in her New York apartment and saw her in Arkansas. When Mr. Whaley later told me that Mrs. Howells' will, drafted by Richard Butler, Sr., would probably include our department, he suggested discretion in any comments. At this time, the U of A wanted no fund raising competition from other campuses.

Period of Thomas A. Bruce (Dean 1974-)

Mrs. Howells died 11/27/78, having outlived her only son. At a press conference at G.I.T. on August 2, 1979, President Bishop announced that the University of Arkansas had received a bequest

of \$3 million from the estate of Marie Wilson Howells, half of the income for psychiatry and half for psychology, the latter to be split 60/40 between Fayetteville and UALR. Appropriate comments were made by the soon-to-depart President, by the new Chancellor Harry P. Ward, by Louis Ramsey, Chairman of the Board of Trustees, and by Steve Wilson, one of Mrs. Howells' grand-nephews (This fund already supports DPBS research.)

At about this time, the WOHDAN Chair of Child Psychiatry was in the offing. This became the first regular and permanent Chair on the medical campus, and was accomplished through a challenge grant from the Board of the Working Women's Home and Day Nursery (hence the acronym for the Chair). This Board was terminating the organization and liquidating its capital. Elle Cotton, who worked in Child Study Center for 22 years, made the successful presentation for the gift. In addition, John Peters, Sam Clements and their colleagues have received a number of significant smaller gifts, ranging up to \$10,000, over the years.

We vacated our old basement clinic space and moved in 1979 to the building on West Capitol constructed by James Worthen for his metabolic practice.

Dean Bruce's reorganization changed the "School" to the "College," doubled the number of departments, created the representative Council on Academic Affairs (CAA), created the Research Council, changed the old Executive Council to the Council of Department Chairmen (CDC), and established his Executive Committee which was made up of elected chairmen of CAA and CDC and the Chairman of the Research Council. For 1975-76, I followed R. S. Abernathy as Chairman of CDC and therefore as a member of the Executive Committee (74-77). R. F. Shannon and R. A. Dykman were sequentially elected as Chairmen of CAA and therefore as members of the Executive Committee.

Bruce was Dean during the Centennial period which gave rise to Baird's book.⁴ Baird worked closely with the History Committee of the College, which was chaired by R. F. Shannon. Other departmental members were F. O. Henker and M. S. Levy. The foreword of the book was written by H. N. Marvin, another member of the History Committee. Other notable achievements during

the UAMS chancellorship of James L. Dennis are well reviewed in Baird's book.

In some respects, during Bruce's deanship and despite his support and the fact that Reese and Shannon served and Dykman serves on his Executive Committee, we did not fare so well. The trend begun in 1972 by Nixon, for reduction of categorical support for psychiatry was significantly evident by the last half of the seventies. Nonetheless, in 1980, NIMH support was renewed for psychiatric education of medical students, for residency education and for child psychiatry liaison with pediatrics and family practice. Our applications received high priority and maximum funding, but this amounted to about half that for 1974 (with dollars that were worth considerably less). We lacked funds to replace Richard Sundermann, who directed our adult outpatient clinic from 1961-78 until he went to the VA payroll. NIMH and VA research awards diminished.

Nearing 20 years of operation, our adult inpatient service closed in 1977, a victim of low census which was partly incident to our troublesome attempts to mix children, adolescents and adults on a 26-bed unit and partly due to demands for more beds from other services. The Child Study Center was built for the addition of a fourth floor, but funds for this have never been secured. Such proposed funding appears again in the campus projections for 1983-85.

We were visited in October, 1975 by three distinguished psychiatrists who were invited by the Dean to survey the status of psychiatry here and in our affiliate institutions and to recommend future directions. Recommendations included: central coordination through a consortium model to include the Department, the Arkansas Mental Health Services and the VA; consolidation of service and education; decentralization of services to blanket the state with respect to veterans and non-veterans. Although there was considerable merit in much of the proposal, relatively little progress in these directions was made in the next five years, partly because much fruitful collaboration existed already and partly because the institutional "powers" were each reluctant to diminish individual control. For my part, I believed and believe that a University must be central for education and research and sufficiently strong and influential to negotiate from a position of strength — at least equal strength. I believe that Dean Bruce strongly

supported the general thrust of his consultants' recommendations and the next significant progress may be made on this front, always provided that political pragmatists do not derogate intellectual pursuits — a real possibility.

My attempt to assess the contributions of Dean Thomas A. Bruce, one of my early medical students, is blurred by proximity. I believe that this Dean contributed significantly to the Institution during a period of ferment and growth. He doubled the number of departments, elevated or recruited chairmen for most departments and strengthened most of these, significantly increased the number of minority students and the size and activities of the College of Medicine, reached out in the State in medical education and service (building on the work of Shorey, Bost, Dennis and others), strengthened the practice base of the College of Medicine, furthered the acquisition of the McClellan VA Medical Center and actively and effectively pursued his choice for Chancellor. Some of these activities helped DPBS indirectly. He had other matters of higher priority demanding his direct attention.

At this writing for this section, Dean Bruce has established a search committee to select my replacement by July, 1981 or as soon thereafter as possible. If a strong candidate is named, this may turn out to be the major achievement of Dean Bruce with respect to psychiatry and behavioral sciences.

PSYCHIATRY RESIDENCIES^{fn6}

VA Hospital, North Little Rock

The psychiatry residency program of VANLR was AMA-approved in May, 1947, retroactive to the appointment of the first residents on 10/24/46. Some residents, at least W. P. Kolb, A. M. Holtzman and Frances Howard, went to St. Louis for child psychiatry training through affiliation with Washington University. With the establishment of the Department of Neuropsychiatry and its Mental Hygiene Clinic at our medical school in 1948, all training was provided in Pulaski County. This first program had 14 residents who completed all or most of their training in the program prior to 1958 and 17 between 1958-70. Program directors were: C. N. Baganz (1946-48); W. Rottersman (1948-49); Ewin S. Chappell (1949-59); Harold B. Witten and W. B. Hawkins (1959-61); Henry L. Lambert (1961-70). In July, 1970, this program was integrated with the University-based program and discontinued its separate existence.

The "combined" program, in two forms, is outlined below.

Arkansas State Hospital

ASH began a two-year approved program on 2/10/50, during the time that Hayden Donahue was their Director of Education and Research (1949-51), under Superintendent G. W. Jackson. The program floundered when the two left. With some reluctance, I then became director of the program, at least on paper.

Chappell and I, with Superintendent E. H. Crawfis and W. P. Kolb worked up a complicated and short-lived "Arkansas Combined Program" which was approved effective 6/1/54. Kolb was the ASH Director of Professional Education from 1954-56, and then went into private practice coincident with the opening of a private psychiatric unit at the Baptist Hospital (except for VALR, the first general hospital unit in the State). Political interference contributed to Kolb's departure and certainly to the end of the Crawfis superintendency and to the recess of training at ASH.

Other factors were involved, but the political issue came to a head when Crawfis resisted the selection of his Personnel Director by Governor Faubus, who had then appointed four of the five members of the ASH Board. I remember a meeting of the Pulaski County Mental Health Association at which John G. Howard, Jr., presided. Crawfis and Faubus came to present their views. The former did so objectively; the latter's presentation was characterized by his displaying a bottle of filthy milk which he said came from the ASH dairy.

During the interim after Crawfis left for Ohio, Robert Carnahan held the hospital together until Granville Jones came as Superintendent in 1957. In 1957, the AMA withdrew approval of the two-year program which had continued during the abortive attempt to launch the combined program. Jones recruited Hans Molholm who directed a new three-year approved program during a very productive period from 1958-68. Jackson returned from Kansas and headed ASH from 1961 until his retirement in 1978. Richard Nolen was residency director from 1970-73 before his two-year stint in Maryland. During this long and relatively tranquil period from 1958-74, 44 residents completed all or most of their training in the program. Practically all of these had affiliated training at University, especially for child psychiatry and at the Little Rock VA Hospital for neurology

and psychosomatic medicine. Dennis Lucy has been very cooperative in the neurological training of psychiatric residents in all of the programs.

Emile P. Eckart became Director of Education and residency director in 1975. Although the University-VA and the ASH program now have separate approvals, they functionally combined in 1977, with R. F. Shannon as Director and Eckart as co-Director. The liaison representative from the VA is R. Harvel Harrison, Chief of Psychiatry. The combined program is integrated by the Inter-agency Committee with representatives from the three institutions. The Chairman of DPBS is now permanent Chairman of this Committee.

Medical Sciences Campus, University of Arkansas

The three-year University program was approved effective with its inauguration on 7/1/58, coincident with the opening of the psychiatry unit of University Hospital, and continued in its present form in one way or another to the present. R. F. Shannon first completed this residency in 1961. Reese directed the program from 1958-70, except for John Peters' directorship from 64-67. The VA program was integrated in 1970 and in 1971 R. F. Shannon became director. For the most part, DPBS has been an essential affiliate for the other programs mentioned previously. Reciprocally, the University program depended heavily upon staff and patients of the sister institutions, but never more than since 1977 with the rebirth of the combined program.

During the period 1958-72, 24 of the completing residents were University-based; and from 1972-80, 23 such residents completed residency.

CLINICAL PSYCHOLOGY INTERNSHIP^{tn6}

This one-year training program has been quite successful in recruiting and clinically training candidates for the PhD in Clinical Psychology from a number of academic programs in various states. A considerable proportion of these remained or returned to Arkansas. The general program, in which 42 candidates completed internship, was directed by S. J. Fields from 1962-72 and by S. D. Clements from 1972-80. NIMH provided some support throughout. In 1980 this general program was replaced by an internship in clinical *child* psychology, directed by Clements.

OTHER ACTIVITIES OF THE CHAIRMAN

A department of a medical school does not operate in a void. An effective department and an effective chairman must participate in various

extra-departmental activities which enhance the institution and therefore the department. This largely personal section speaks to such involvement on my part.

Let me now introduce myself. I was born and reared in the Rockies on a farm in Cache Valley; in depression days, worked my way through the University of Idaho at Moscow and graduated at the top of my class in 1938 having earned, in four years, a B.S. and M.S. in Psychology; attended medical school at Washington University (St. Louis) as a four-year Jackson-Johnson Scholar and graduated 14th in my class, despite a time-consuming Assistantship in the Department of Neuropsychiatry; interned in medicine at Barnes Hospital; served in active military duty for three years in U. S., England and Germany, mainly with the 98th General Hospital where I became chief of NP Service; and took residency in psychiatry as a Commonwealth Fellow at The Johns Hopkins Hospital. After residency, I went on the Hopkins' faculty while serving as Director of Professional Education at VA Hospital, Perry Point, Maryland for over two years; and arrived here as Professor and Head at the age of 34. Overlapping residency and the VA experience, I was a candidate in the Washington-Baltimore Psychoanalytic Institute. (I left the latter training when it was nearly "completed," since psychoanalysis was too constricting for me and too expensive for my financial resources. I have great respect for psychoanalysis and consider it to be one of the cornerstones of psychiatry).

I married Elizabeth Bahn (who had a Northwestern University degree in Music Education) about the time of medical school graduation. Our oldest son, my namesake, is a computer systems engineer in Rhode Island, as is his wife; our son, Robert L., is married to a nurse who earned her degree at the UAMS campus. Bob is a practicing radiologist in Tucson and an alumnus of our School (MD '72). He was born about when I started residency. Our daughter, Mary Mealer, was born about a year after we came to Little Rock. Married to a social worker, she is a special education teacher in Nashville, Tennessee.

Campus Activities

Although not mentioned by Baird,⁴ it was I who drew up a skeletal plan to develop integrated biopsychosocial teaching of students of medicine, nursing and social work. Since such people work together as professionals, either well or poorly, I

reasoned that they should share some educational experiences as students. I obtained permission from Dean Nicholson to enlist support from the Commonwealth Fund and on 6/24/53 visited Drs. R. Heffron and C. O. Warren in their New York office. Dr. H. E. Hundley visited us in December, 1953 and a grant was obtained. This allowed employment on these funds of James Wortham as project director, Eleanor Sheldon in nursing, Dorothy Myers in social work and Margaret T. Heyse as a nursing consultant. Their first effort was to establish a model, multidiscipline teaching clinic. The project was short-lived, with no application for renewal, since the new Dean/Provost Lawrason wished to pursue different directions which were unencumbered by the espoused philosophy. All was not lost, since Wortham stayed on in the Department of Medicine (and later built the building which now houses UAMS Psychiatry Clinic). Sheldon became the first Director of Nursing in the new University Hospital and Myers continued in our department for awhile. Much later, a School of Social Work was established on a different, non-medical Campus, as desired by their planners and first Dean, but contrary to my wishes.

When I attended the Harvard Visiting Faculty Seminar in Community Psychiatry for 16 weeks in the period 1964-67, I was quite impressed by the presentation of Hermann H. Field, who was the inhouse Director of Planning Office of Tufts-New England Medical Center. With sanction of our local officials, I invited Mr. Field to visit us on January 12-14, 1969. As then Chief-of-Staff of University Hospital, I chaired the sessions with the other chiefs-of-service and with key officials and staff of the Greater Little Rock Community Mental Health Center. Mr. Field first met with the Medical Center Planning Committee, Howard Barnhard Chairman by Whaley's appointment. Under Vice President Dennis, Barnhard became the first Head of Planning, Organization and Development Office, with major activity directed toward planning of the Education II Building. The planning office continues under different leadership (Ron Lanoue), but still full time.

As Chairman of the Campus Senate (1979-80), I was named by Chancellor Ward as a member of his Executive Planning Committee which was charged with the development of five-year plans. These are presented in the 322 page document of July 1, 1980, *University of Arkansas Medical Sciences Campus: Five Year Plan, 1980-1985*.

I accidentally and early became acquainted, through Beloit Taylor, with some of the background of the 40-acre gift to the University of Arkansas of the Cammack property. Mr. Taylor was attorney for the estate, Legal Counsel and Vice President of National Old Line Insurance Company, a distinguished and much honored alumnus of the U of A and a previous member of its Board of Trustees. He was a member of the five-person W. Rockefeller advisory committee to Dean Nicholson. He was also a first cousin of my wife's mother (and very helpful to us in finding our first house and in other ways). Beloit told us that the Cammack will required that the Cammack property be used by the University for educational purposes, and that attempts to sell the property would bring the family heirs into court.

From 1970-73, I worked very actively on President Mullins' Committee on Long Range Planning for Higher Education in Central Arkansas. This committee was chaired initially by Vice President Whaley (who no doubt recommended me) and through most of its course by B. A. Westerlund, Director, Industrial Research & Extension Center. I was chairman of the subcommittee on health sciences and technologies. The final printed report, but called "An Interim Report on Programs," was presented to President Mullins in March, 1972. I cannot assess the impact of the report. I did see power politics in action. The Committee recommended virtually unanimously that the Little Rock Law School be located on the UALR campus. The University Board made a different decision which was ably supported by Henry Woods and some powerful legal colleagues. I also saw the successful, possibly wise, attempt to inhibit the growth of graduate programs at UALR and to keep the center of presidential power in Fayetteville.

As one of the conditions for developing a separate Campus in the University System, it was necessary to establish a governance structure approved by the President and the Board. This was accomplished under Chancellor Dennis for the "University of Arkansas Medical Center Campus" (a strange name for an organization which operates at several sites, such as the Area Health Education Centers, which were headed first by ex-Dean Shorey and then by Roger Bost). The Campus Constitution created two bodies, the Senate and the House of Delegates. For 1979-80 I was the third Chairman of the Senate; simultaneously

our department Business Officer, Paul M. Meeks, was Chairman of the House of Delegates. In 1980, my secretary, Marilyn Ferguson became Secretary of the latter body.

I drafted the first By-Laws for University Hospital, was Chief-of-Staff on two separate occasions, and resigned from "elect" status before beginning a third in order that one with more enthusiasm could serve.

Health Planning

I worked diligently from 1954-55 in an extensive survey reported in the document *Mental Health Needs and Resources of Arkansas*. Our planning group, appointed by Governor Francis Cherry, was co-chaired by E. H. Crawfis, ASH Superintendent and Daniel Blain, Medical Director of the American Psychiatric Association. The report was delivered on 1/17/55 to Orval Faubus and probably ignored. The document, however, was useful to many professionals and may have had some impact on later actions.

Preceding federal funding of Community Mental Health Centers (CMHCs), as provided in Public Law 88-164 of 1963, the Congress appropriated funds to "plan for planning" and then to plan. Mental health took a lead later followed by general health. Somewhat reluctantly, John Peters and I agreed that our child psychiatrist, O. L. Forbis, could accept the part-time post (under State Health Officer J. T. Herron) as Psychiatrist Director of the Mental Health Planning Project (1964-65). Paradoxically, the plan for children looked less desirable than other aspects of the Forbis *et al* report, despite the excellent background material and recommendations provided by Peters. On one intensive weekend about the time Forbis left for Texas, I completely re-wrote the plan for children and saw my version mainly accepted (but certainly not totally implemented).

From 1976-78, I returned to such planning efforts as a member of the State Advisory Committee for Comprehensive Mental Health Planning with George Jackson receiving the advice through his deputy W. R. Oglesby. I had the notion for years that the State Hospital appropriation should provide some research support. (Even one percent of a \$20-30 million budget would be a respectable beginning). Immediately, various members of the State-wide committee saw opportunities to divide such pie into inconspicuous pieces; so I left the Committee having failed in my objective.

From 1970-76, I was a member of the Regional

Advisory Group of the Arkansas Regional Medical Program and served on their Executive Committee during the period of the national demise of the RMP.

From my various planning activities, I have learned that the correlation between overt plans and actions is probably low. Cognitive planning seems desirable, but this is certainly not a dominant force. Exigency often substitutes for presumably logical plans; political forces may outweigh reason; emotional factors in individuals preempt cognitive factors; and many unknown, unknowable, unmeasured or commensurable variables affect outcome. The next topic provides other examples.

Veteran Administration Hospitals

I came directly to my chairmanship from VA Hospital, Perry Point, Maryland, where I was Director of Professional Education and psychiatry residency program, a Johns Hopkins faculty member and their on-site liaison person to the VA hospital, and founder of their psychophysiological research laboratory (which later became another Pavlovian Laboratory directed by W. H. Gantt, whom I brought to the VA as a consultant). At Arkansas, by virtue of my post, I was immediately a member of the Deans Committee. I have consulted, particularly at North Little Rock, during this long course, and a decade ago became a program consultant upon the recommendation of Mark Ardis. I had the pleasure of working with three effective local Directors: H. W. Sterling, K. L. O'Brien and V. J. Parrish. The latter two corrected my bias against non-physician administrators of VA hospitals. For a long period, as a member of the American Association of Chairmen of Departments of Psychiatry, I have been a member of their liaison committee to VA Central Office. Thus I have seen the VA inside and out.

Despite these presumed qualifications, I was unsuccessful and possibly incorrect in my long and diligent efforts to prevent consolidations which I thought would be adverse to psychiatry. The two hospitals were integrated under one Director, H. W. Sterling, in 1965. The office of Chief-of-Staff was integrated, under E. J. Towbin, in 1976 and H. L. Lambert, who was Chief at North Little Rock from 1971-76, declined to become chief of Psychiatry, particularly since this position had been held by R. H. Harrison from 1971. In 1977 the Research and Development Committee was integrated, with K. D. Straub as Associate Chief

of Staff for Research. Soon thereafter, O. D. Murphree (who had directed the NP Research Laboratory from its beginning in 1955) retired from the VA.

I continued to try to influence the development of VA outreach services, such as those which had been so successful in the State programs. This idea was reinforced by the Dean's psychiatric consultants in their visit in October, 1975. We did manage to get one satellite clinic established at Van Buren, in the face of considerable opposition from the "power structure" at Roosevelt Road. I was also successful in pushing the preservation of the parade grounds and the old fronting military buildings at Fort Roots. As Director, K. L. O'Brien, because of similar unsuccessful attempts elsewhere, failed to pursue this; but H. Ford did establish the necessary formalities for preservation.

Having ready access to Storm Whaley in the sixties, I presented the notion that Little Rock University should revert to a junior college, that the equivalent of UALR should be established at Fort Roots and that the two Divisions of the VA hospital should join on our Campus. This fantasy may have been inappropriate and it was obviously unrealizable.

Facing a considerable shortage of animal space on our own Campus, I strongly encouraged Dean Shorey and Mr. Whaley to obtain suitable facilities adjacent to the colony of nervous pointers. Through Shorey's Assistant Dean, George Warner, some feeble moves were made toward this. Finally, Warner, Dean Bruce and Chancellor Ward brought this about in 1980. Despite particular efforts of E. J. Towbin, me, and others, too much property has been "excessed" at Fort Roots.

Towbin, with Bruce's support, is more responsible than anyone, through his pursuits of Senator McClellan and other powerful people, to bring to reality the McClellan VA Medical Center at Elm Street and the Wilbur Mills Freeway. This hospital may reinstate a long missing psychiatric service in the VA general hospital. Under the leadership of Director V. J. Parrish, Fort Roots is engaged in extensive new construction and renovation. This project was long-delayed by the VA which awaited decisions concerning locations of the total hospital.

Activities in Other Organizations

In addition to my memberships in the societies of organized medicine and my Life Fellow status in the American Psychiatric Association, I was a

Charter Fellow of the American College of Psychiatrists, and a Founding Member of the American Association of Chairmen of Departments of Psychiatry, of the Pavlovian Society of North America, of the Arkansas Psychiatric Society (which in 1980 presented me with their Meritorious Achievement Award,^{fn8} of the Association of Southern Professors of Psychiatry and of the Southwestern Chairmen of Psychiatry. I was Scientific Associate of the Academy of Psychoanalysis. I served one term as Secretary of the Pulaski County Medical Society and for several years as one of their delegates. I was Charter Member of the University of Arkansas Chapter of Alpha Omega Alpha and of the Arkansas Caduceus Club (which in 1974 presented me their Distinguished Faculty Award). I was the most active founding member of the Little Rock Chapter of the Society of the Sigma Xi. I held offices in several of these organizations. Like other chairmen, I found that such contacts were useful in furthering the progress of the department.

Associate Deanship

At the end of Shorey's deanship, I was his Associate Dean for Postdoctoral Medical Education from December, 1973 to June, 1974. I sought this position and accomplished the first two of three main purposes: (1) to bring the residencies into the College of Medicine primarily and University Hospital secondarily, in order to emphasize the academic aspect of residency education; (2) as a corollary (and with great help from Horace Marvin and Barbara Babb) to centralize housestaff registration and record-keeping in the Dean's Office; and (3) to develop logical methods for allocating residency slots in different specialties, with some relation to societal needs. This function appears to have been preempted by the federal bureaucracy.

CLOSING STATEMENT

It would be redundant to summarize a summary progress report. I expect Dykman, Peters, Shannon, Clements and others, such as psychiatrist/historian Henker, to expand and correct this account with their own reports. Sufficiently removed from the scene, I hope some real historian will do justice to my topic.^{fn9}

I wish success to present leaders of our academic establishment and particularly to my successor chairperson, who will become my Chief as I continue on the active faculty.

FOOTNOTES

1. Submitted in October, 1980; with Appendix updates in June 1981. Reprints: 4301 West Markham, Little Rock, AR 72205.
2. This treatise is dedicated primarily to my wife, Betty, and to my children Bill, Bob and Mary; and secondarily to those loyal members of faculty and staff who founded and developed a successful department.
3. On 11/14/80 the official name of the institution became the University of Arkansas for Medical Sciences.
4. These statistics were available through the excellent record system devised by H. N. Marvin, assisted by Barbara Babb.
5. See Appendix for full names of present faculty members.
6. This roster is deposited in the UAMS archives.
7. The former "Edl" Building was dedicated on 6/13/81 as the Winston K. Shorey building, a well-earned honor.
8. The first recipient in 1979 was W. P. Kolb.
9. I look forward to Flossie McMurray's oral history from persons who made mental health history in Arkansas.

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ELECTROCARDIOGRAM

OF THE MONTH

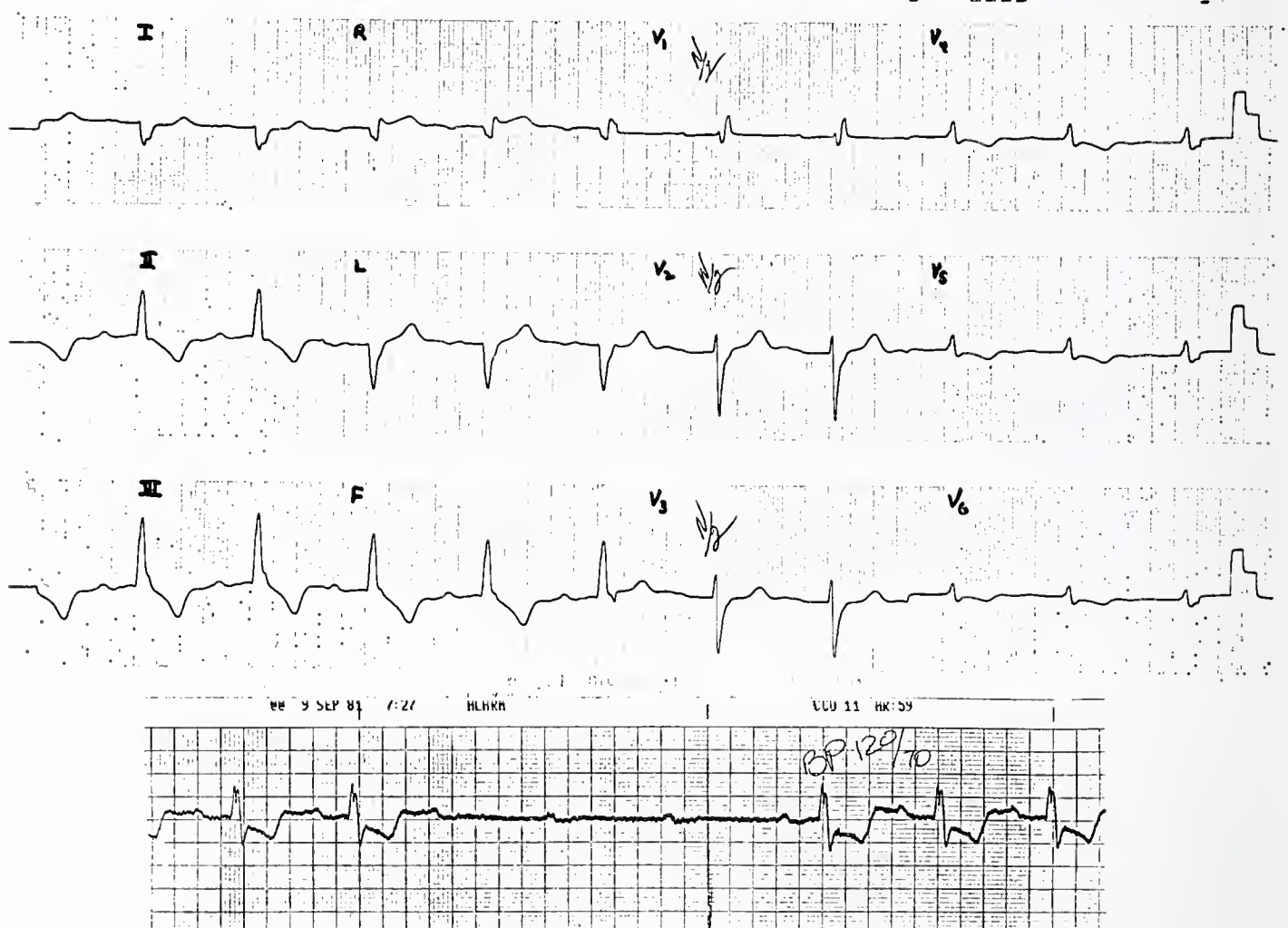
The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 258)

HISTORY: M.Y. is a 94-year-old lady who has no complaints of a cardiovascular nature. She gives no history to suggest ischemic heart disease. On physical examination, the patient looked to be her stated age, had an organic brain syndrome, a clear chest, a soft S_1 , and a widely split S_2 increasing with inspiration. Her ECG constituted her reason for referral. Also shown is a monitor strip.

Which of the following statements are true:

1. RBBB is present.
2. Left anterior fascicular block is present.
3. Trifascicular block is present.
4. The monitor strip shows Mobitz I second degree block.



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The Bunion

Philip H. Johnson, M.D.*

The bunion deformity is a specific clinical entity. Structurally it consists of a rounded bony prominence on the medial aspect of the first metatarsophalangeal joint (Fig. 1). It is a combination of the normal metatarsal head made prominent by a valgus shift of the great toe; a bony overgrowth of "exostosis" secondary to years of shoe irritation; and an adventitious bursa sometimes containing fluid. Hallux valgus is a term commonly used synonymously with bunion, and simply means valgus or outward shift of the great toe at the metatarsophalangeal joint.

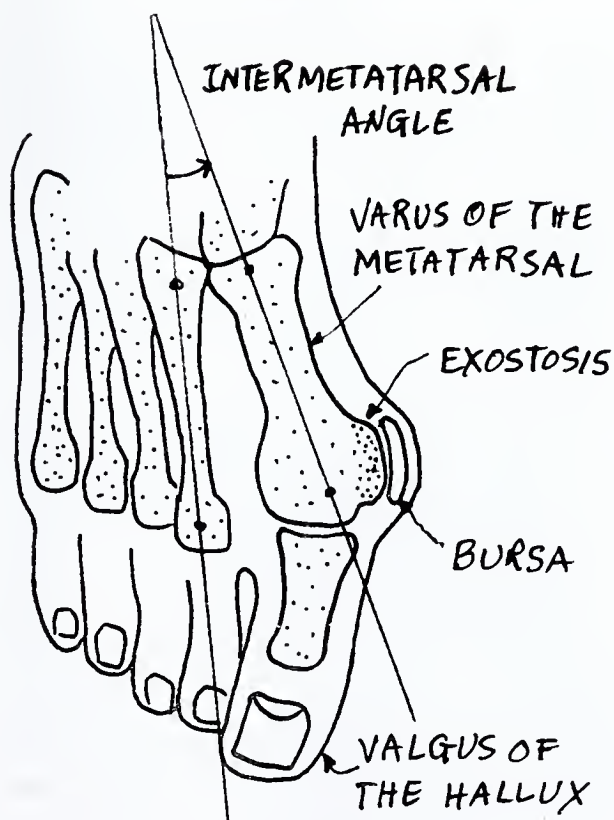


FIG. 1

ETIOLOGY

Two basic facts must be stated from the outset. First, bunions are only found in societies where shoes are worn. Second, in more than 90% of the cases, bunions occur in females⁵. There is no doubt that the footwear which is worn by fashion conscious women is the greatest contributing factor toward the production of this deformity. The short, narrow shoe with pointed toes and high heels is the great offender.

Metatarsus varus undoubtedly plays a major part in predisposing an individual to the bunion deformity. In this common infant condition all five metatarsals deviate medially. This results in a wide forefoot and a sagging of the medial longitudinal arch. Spontaneous correction frequently occurs in the lateral four metatarsals and less frequently in the first metatarsal. By adolescence medial deviation often remains only in the first metatarsal, leaving a wide space between the first and second toes. A line drawn down the first and second metatarsals produces what is called the "intermetatarsal angle." This should not normally exceed 9°. As long as reasonably large shoes are worn, little problems occur. However, the female attempting to force this wide foot into a petite shoe will almost certainly be producing bunions in her own feet.

Metatarsus primus varus is a rare congenital deformity consisting of deviation of only the first metatarsal. This is a hereditary condition more frequent in females. A wide intermetatarsal angle is seen in early childhood and predisposes to severe bunions at an early age.

PATHOPHYSIOLOGY

Typically, an adolescent female with metatarsus varus begins wearing fashionable shoes. The

*Little Rock Orthopedic Clinic, P.A., 9500 Lile Drive, P. O. Box 5270, Little Rock, Arkansas 72215.

great toe, which in childhood pointed medially, is now forced by the shoe into a valgus position. The first metatarsal, in a varus position since infancy, holds fast its inward deviation, leaving the metatarsal head prominent medially. The shoe therefore produces a lateral subluxation of the great toe. This deformity becomes static over a period of years. In the next decade, irritation of the metatarsal head will produce a small bony exostosis, which progresses in size. By age thirty-five to forty a large bony prominence is present, and AP x-rays show lateral displacement of the sesamoids. Actually, a tendinous band holds them stationary while the metatarsal head migrates medially (Fig. 2). This band is composed of the conjoin tendon of the transverse and oblique heads of the adductor hallucis which inserts at the lateral base of the proximal phalanx, and the tendons of the medial and lateral heads of the flexor hallucis brevis, inserting on the medial and lateral sides of the base of the proximal phalanx. Within the two tendons of the flexor hallucis brevis on either side are the sesamoid bones. They act very much like the patella, serving as a fulcrum to add mechanical advantage to the pull of tendons during toe-off. Also, they play a key role in weightbearing. Each sesamoid bears, along with the other metatarsal heads, one-sixth of the weight placed on the ball of the foot during ambulation. As the metatarsal head shifts medially, weight normally borne on the sesamoids is shifted to the second metatarsal head, where a plantar callous frequently develops. As time progresses, the proximal phalanx articulates only on the lateral side of the metatarsal head, and early osteoarthritic changes may be seen in the joint. At this time, a longitudinal rotation of the great toe is frequently seen with the nail pointing inward. As the deformity

becomes more severe, a precipitous worsening of the condition seems to occur as the proximal phalanx actually seems to push the metatarsal head medially. At this point the great toe is usually overlapped by the second toe. Marked soft tissue contracture has now occurred. Complete dislocation of the sesamoids from beneath the metatarsal head has also taken place in this end stage.

CLINICAL

Pain and deformity are the most frequent complaints. Shoe irritation over the prominent exostosis produces a painful adventitious bursa. Muscle imbalance about the metatarsophalangeal joint is also painful.

The grotesque deformity created makes the wearing of a normal shoe impossible. This complaint itself brings many patients to the decision that surgery is necessary. An acute adventitious bursitis, overlying the bony exostosis on the medial aspect, is not unusual. Only rarely does it drain and become infected. In late cases, where the second toes overlap the first, a callous is usually present on the dorsum of the second toe. A plantar callous is frequently present under the second metatarsal head.

TREATMENT

If the wearing of shoes in our society were not so imperative, then many bunion patients would not demand treatment. Most of the pain associated with this deformity is a result of wearing shoes which cannot be made to fit. Comfortable custom crafted shoes ("space shoes") may be obtained by making plaster or foam molds of the feet. The appearance of these shoes, however, is usually unacceptable to most patients.

Surgical reconstruction of the medial side of the foot remains for most patients the only alternative. Due to the chronicity of this condition, surgery is elective and at the patient's convenience.

Reconstruction consists of three basic components (Fig. 3). First, resection of the exostosis on the medial aspect of the metatarsal head is required. In the younger adolescent female, however, very little exostosis is present, and care must be taken not to remove normal metatarsal head. Second, the deforming pull of the adductor hallucis tendon at the base of the proximal phalanx must be removed. This dynamic force can be converted to a corrective force by attaching this ten-

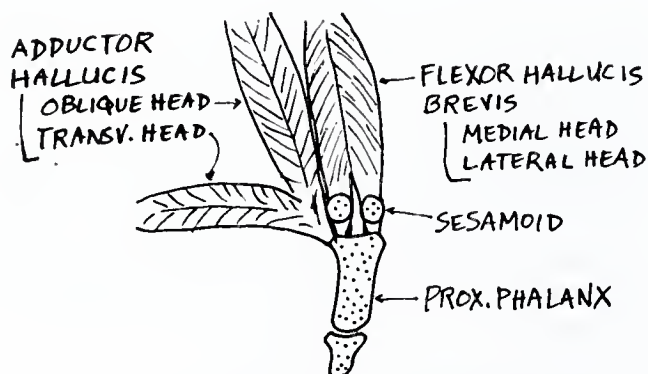


FIG. 2

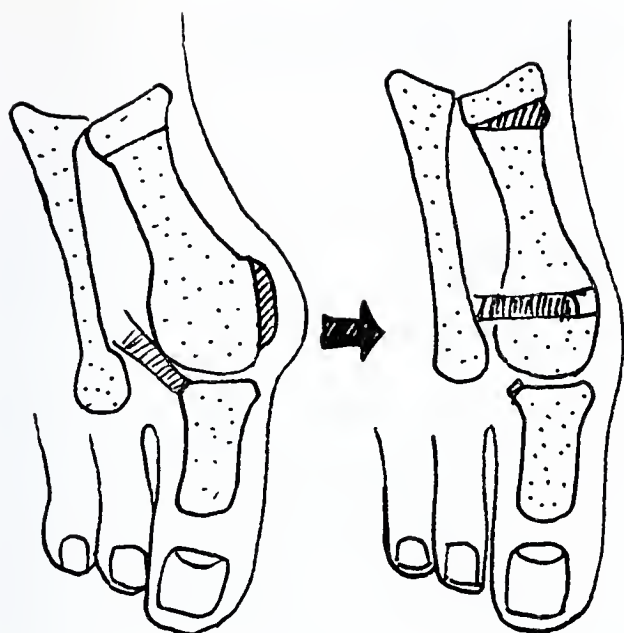


FIG. 3

don to the metatarsal neck. This may be efficiently done by drilling a transverse channel in the neck of the first metatarsal and attaching the tendon to the fascia on the medial side of the foot^{7,8}. The third part of this procedure requires realignment of the displaced first metatarsal. During the last fifty to sixty years this bone has been attacked at every conceivable location, from the metatarsocuneiform joint to its head². Each surgeon must select the procedure which is most applicable to each case, and with which he is most familiar. An osteotomy at some site along the metatarsal is usually necessary. We most frequently utilize the open wedge basilar osteotomy, originally described in 1923 by Trethowan⁹, utilizing the exostosis removed at the head as bone graft. This works particularly well with the adductor hallucis tendon pull-through described in 1960 by Simmons⁷. For the older patient, however, with marked deformity, some shortening of the first ray is necessary because of long-term soft tissue contracture. This may be accomplished by resection of the base of the proximal phalanx (Keller³), or the removal of bone at various locations along the metatarsal shaft or base (Lapidus⁴, Baker¹, Mitchell⁶, Wilson¹⁰, etc.). Under ordinary circumstances the sesamoids should be preserved. Resection of the lateral sesamoid as de-

scribed by McBride, may produce a reverse varus deformity due to overpull of the medial head of the flexor hallucis brevis. Removal of both sesamoids results in hyperextension of the great toe.

Postoperative care is usually longer and more complicated than most patients expect. An initial two week period of time on crutches, with minimal weightbearing, is necessary simply to overcome post-operative soft tissue reaction. With some osteotomies, cast immobilization is recommended during this period of time. For an additional three to four weeks some type of loose-fitting shoe, laced to the toe, is recommended. An inexpensive men's basketball shoe is ideal. At six weeks post-operative, most patients tolerate a soft leather, comfortably fitting, soft soled shoe. Some swelling may be present for more than six months. All of the old shoes with "bunion pockets" should be discarded.

CONCLUSION

In summary, the bunion deformity is a static structural foot deformity, frequently produced by women who wear narrow high-heeled fashionable shoes. Metatarsus varus definitely predisposes to this condition. Surgical realignment of the entire medial aspect of the foot is frequently required to permit the comfortable use of shoes.

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New Wrinkles on Old Age: A Cellular and Molecular Approach*

Samuel Goldstein, M.D.**

INTRODUCTION

In this review I will take you on a personal odyssey through the area of biological aging. First, I will present briefly some demographic, pathological and physiological background data which provide the rationale for a cellular and ultimately molecular approach to aging research, not unlike the path taken toward the resolution of many other questions in medical science. I will then discuss a mélange of studies carried out in our laboratory over the past decade with the aim of demonstrating that while aging is a complex process we have now seriously begun to get a handle on its fundamental basis. Above all, it is evident that we will be able to distinguish between the aging process and the diseases that accompany it.

Biological aging is defined as a progressive unfavorable loss of adaptation and decreasing expectation of life with the passage of time; it is expressed in measurement as decreased viability and increased vulnerability to the normal forces of mortality¹. The gist of this definition is that aging is an unfavorable loss of adaptation. While we spend nine months in utero and many years thereafter until maturity in developing our homeostatic mechanisms, the prime manifestation of aging and indeed its hallmark is a progressive loss of homeostatic capacity.

Figure 1 depicts the dramatic improvement in

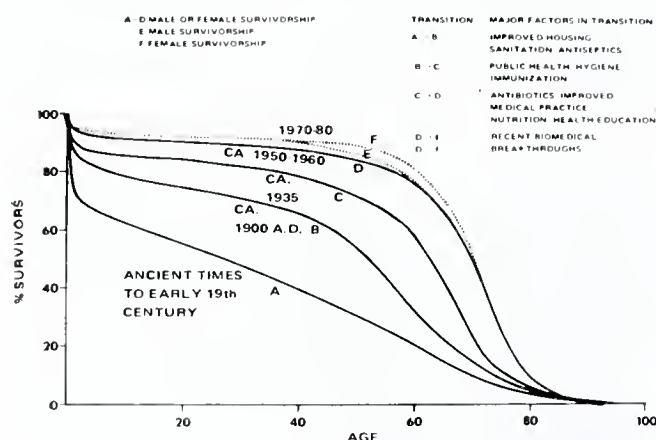


Figure 1.

Survival curves for human populations from antiquity to present times. (From B. Strehler, ref. 2)

*Modified from a Medical Grand Rounds presentation at UAMS, May 28, 1981.

**Division of Gerontology Research, Departments of Medicine and Biochemistry, University of Arkansas for Medical Sciences and Veterans Administration Hospital, Little Rock, Arkansas.

human survivorship that has occurred over the millennia. In antiquity there was severe mortality in the newborn period with continued brisk mortality thereafter reaching an asymptote around age 100. Eventually civilization progressed from hunting and gathering to more reliable sources of food and shelter marked by the advent of agriculture. Toward the close of the 19th century we began to implement various measures emanating from Pasteur's proof of the germ theory. This led to vast improvements in sanitation and general hygiene and in turn to a major upward trend in survivorship toward and beyond middle age largely through control of infectious disease. Continuing into the present century there were further improvements in public health, particularly immunization against the major bacterial and viral killers. In the present era, with further refinements such as antibiotics and improved medical technology and care we have continued to "square the wave". Thus, more and more people are reaching and surpassing retirement age but there is still a rapid asymptotic fall to age 100. This inability for most humans to penetrate the century mark can be viewed as a biological barrier, which can be regarded in two ways: 1. as a loss of information from a genetic program beyond which viability is impossible, or 2. as a stochastic mechanism, such as damage or errors to the genetic apparatus. If such errors reached a critical threshold the cell, or organism, would die.

Physiological Function During Aging

Figure 2 displays several physiological functions and their variable rates of decline with aging, taking 30 years as the time of maximum function. A consideration of two respiratory parameters will illustrate a crucial point about reserve. There is a greater decline over the years in maximum breathing capacity than in vital capacity. Thus, the more stringent test, maximum breathing capacity, which demands that you move as much air in and out over 60 seconds as possible, compared to a single breath, unmasks a greater loss. Another cogent example is the glucose tolerance test versus the fasting blood sugar. Both the

respiratory and metabolic tests illustrate that the greater the challenge to the organism, the greater the deficit demonstrable in reserve capacity.

Age-Dependent Disease

Mortality statistics are shown in Figure 3. At about age 30, the "all causes" curve of mortality begins to climb very steeply. If we subtract all the neoplastic causes of death there is scarcely a dent in the overall mortality curve. Indeed, if all the malignant disorders were eradicated the lifespan would only be extended about two years. If we subtract atherosclerotic disease from the all causes curve, there is a somewhat greater improvement in mortality. Taken together, this group of diseases comprising coronary, cerebrovascular and peripheral vascular disease, if eradicated today, would extend the lifespan by seven years. It is clear, therefore, that a host of other diseases will assert themselves to spirit us off in later life. In this regard an autopsy study of Howell⁵ is of great interest. Howell examined a number of individuals from age 65-99 scoring the total number of gross ischemic, inflammatory, degenerative and malignant changes independent of the immediate causes of death. In other words, he sought coincidental pathologic foci as a function of age. He found that the average number of lesions per person increased from 5.7 lesions in the interval of age 65-69, progressively up to 12.5 in the 90-99 age

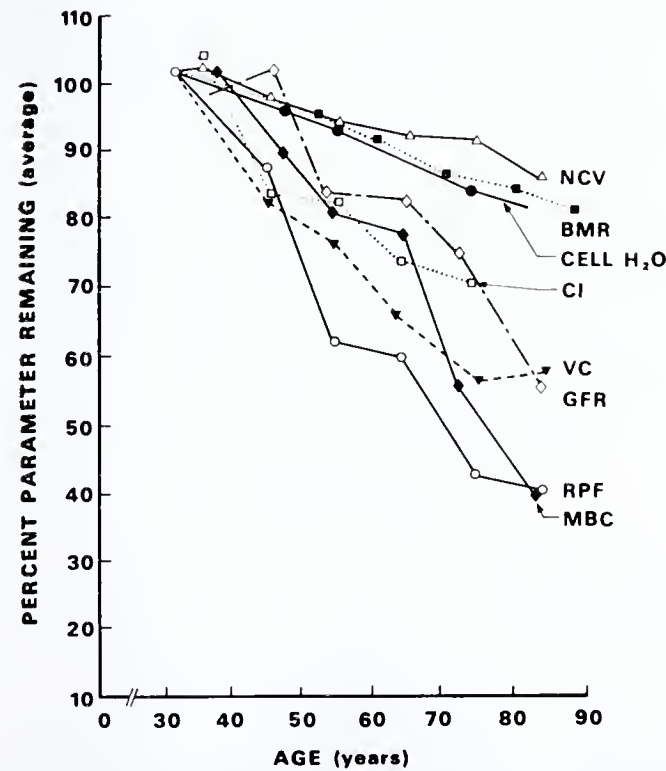


Figure 2. Functional capacity of several physiological parameters as a function of age. (From N. Shock, ref. 3)

group. Thus, even though these lesions had not yet emerged to the clinical horizon they existed as a growing number of potentially harmful, and indeed, lethal foci. In summary, age-dependent pathology arises in foci almost certainly from individual cells into expanding clones which do not always reach the clinical horizon.

Complexities in Aging Research

In attempting to pursue fundamental aging research from the total body viewpoint we are faced with vast complexity. Even if we examine only one physiological unit as an example, say the hypothalamic-pituitary-adrenalcortical axis, it is clear that a number of things can make a putative age-change more apparent than real⁶. Various component parts of this axis can undergo changes with age. Thus, individual secretory cells at all levels and the water space within which the hormones are distributed can change as can the target cells at each level of the axis. This, in turn will affect the various feedback loops between all tiers within the axis even before we remember that several other antagonistic and nervous stimuli will also impinge on this axis. In short, if we wish to dissect out component parts of the aging process

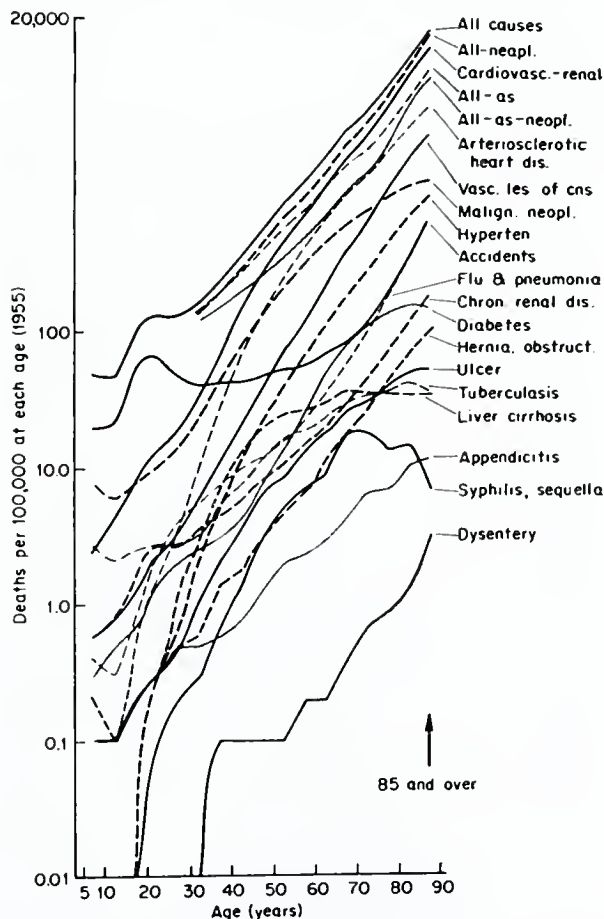


Figure 3. Mortality from selected causes as a function of age. (From R. Kohn, ref. 4)

it becomes essential to simplify and reduce the number of variables to a minimum.

Aging Is Organ Specific

Individual tissues and organs seem to have unique aging schedules. For example, the placenta involutes over the nine months of pregnancy, the ovary by around age 45 in the average female, while the thymus begins to atrophy well before adolescence. Indeed, thymic involution likely triggers certain age-dependent changes in the immune system such that natural production of antibodies falls off in both females and males with age, while there is an increased incidence of a variety of autoantibodies. These seemingly reciprocal events imply a decreasing ability to recognize self and distinguish it from non-self.

Genetic Factors

As is the case with every other biological mechanism the rate of biological aging is determined by the interplay between genetic and environmental factors⁷. Evidence exists in twin studies and family trees for a longevity genotype but the effects are often small and hard to interpret. At the other end of the spectrum, it seems clear that genes exist which can reduce the lifespan and accelerate aging. A large list of disorders can be compiled representing virtually every form of Mendelian inheritance known including autosomal recessive, autosomal dominant, X-linked recessive and polygenic. Even the nonfamilial chromosomal forms such as Down's Syndrome (which are not truly inherited except in some cases) are also associated with many phenotypic features of premature aging and advanced age-dependent pathology. We have been particularly interested in the Hutchinson-Gilford (progeria) syndrome and the Werner's syndrome. The hallmark of progeria individuals is that they stop growing between 1 and 2 years of age and soon thereafter develop many somatic features of very old men and women. The major pathology in this disorder is widespread atherosclerosis leading to early coronary and cerebrovascular events with the mean age of survival about 15 years. In Werner syndrome, also called adult progeria, there is short stature, premature hair graying, lenticular cataracts, recalcitrant skin ulcers on the extremities, maturity-onset type diabetes mellitus, resistant to insulin, severe atherosclerosis and a peculiarly high incidence of sarcomatous tumors.

The mean age of survival in Werner's syndrome is about 48 years.

Cellular Aging

Cells vary in their ability to proliferate at different times of life. In general, cells proliferate rapidly during embryogenesis but before birth there is a subdivision into three groups of cells according to their ability to replicate during adulthood¹. 1. The continuously replicating population, best exemplified by tissue such as the epidermis, the gastrointestinal epithelium and hematopoietic cells. 2. The discontinuous replicators which include hepatic parenchymal cells and certain cells in the kidney. 3. The nonreplicating population, best exemplified by the cells in the central nervous system and skeletal system. Proceeding through life there is a relative falloff in ability to produce all cells since stem cell compartments shrink. That is not to say we cannot repair tissues following trauma or cell death from any cause, but in general, regeneration is achieved more slowly in older persons.

One of the discontinuous replicators is the cell type we utilize in our research, the fibroblast. This cell in vivo probably turns over slowly during the steady state. When there is some type of injury a regenerative response occurs which restores the steady state mass of cells. Subsequently, mitosis again subsides and these cells resume their slow turnover. In vitro, these cells can be propagated at 37°C in Petri dishes containing artificial media plus 10% fetal calf serum. These cells will grow to the extent that they have available surface. Once they fill the area densely and contact each other they stop growing. If subcultured into new dishes with additional surface they resume growing until they become densely contacted which again inhibits cell division. This starting and stopping of growth is exquisitely finely controlled. If you scratch a dense, growth-inhibited monolayer of cells, proliferation resumes in the margin of the wound but not in other parts of the intact monolayer. This clearly indicates that precise signals exist at the level of the single cell which permit regeneration only in the area of wounding. Thus, whether we "wound" the monolayer by scratching or subculturing, cell division ensues.

Subculturing can be done many times over many divisions but eventually the cells lose their ability to divide. Hayflick was the first to de-

termine that the limited replicative lifespan of human fetal fibroblasts was 50 cell population doublings, usually occurring over 12 calendar months⁸. He also demonstrated that cells taken from adult donors only attained 20 population doublings.

We extended Hayflick's initial observations by studying a larger series of persons over the age span seen in Figure 4. We established fibroblast cultures from several persons and subcultured them until they ceased division. The total number of population doublings was then plotted versus the age of the individual donor. Although one can see a substantial variance there is, nonetheless, a significant inverse correlation between donor age and replicative capacity of fibroblasts. Calculating from the slope of the curve we find the loss of 0.25 doublings for each year of life. It can also be seen that individual cultures from subjects with Werner's syndrome perform less well than their age-matched controls. Thus, physiologic rather than chronologic age is the prime determinant. What we are seeing reflected in culture, therefore, is the previous *in vivo* history of cumulative genetic and environmental influences in each person which leads to the unique performance of an individual's culture particularly when he has inherited a certain deleterious gene. In any case, this replicative limit or barrier can also be viewed, as stated earlier, as the using up of a genetic program, or an accumulation of errors to a lethal threshold.

Of overriding importance is the question: What

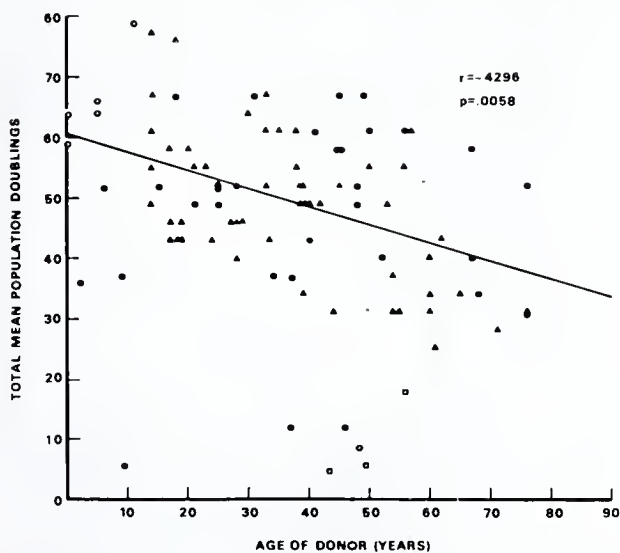


Figure 4.

Replicative capacity of cultured human fibroblasts as a function of donor age. Symbols: ●, donors with Werner syndrome; ■, donors with progeria; remaining symbols are persons "at large" with no known propensity to genetic syndromes of premature aging. (From S. Goldstein, ref. 7)

controls the fibroblast replicative lifespan? Is it related to mitosis *per se* or is it simply the cumulative metabolism of the cell independent of mitosis? On the basis of several studies including our own the answer seems clearly to be a mitotic clock. At one extreme fibroblasts can be banked in suspended animation in liquid nitrogen and stored indefinitely. When reconstituted into normal growth media cells will resume cell division up to their limit, say 50 doublings⁸. If they are banked after 20 doublings and then reconstituted and allowed to divide they will attain an additional 30 doublings until senescence. Thus, cells have "memory" for the 30 doublings that were remaining, or conversely, the 20 that had been used up. Similarly, cells banked after 40 doublings, then reconstituted, "remember" that they had 10 doublings left. In this way, cells are prevented from aging simply by cooling them down to -196°C in liquid nitrogen where molecular motion is close to zero.

We extended these observations by looking at actively metabolizing cells⁹. Duplicate dishes from a single strain were incubated as usual at 37°C . One of the dishes was passaged continually until it underwent senescence. During this time the second member of the pair was held in stationary phase without passage, receiving only fresh medium at weekly intervals to replenish growth factors and remove toxic metabolites. When the continuously-passaged sister culture slowed its replicative rate and became senescent the second (stationary) culture was released and placed on a schedule of continuous subculture until it too became senescent. What was the total number of doublings achieved by each of the two cultures? Both cultures achieved 53 doublings. Thus, the culture held stationary for three months was still capable of realizing the same number of doublings as the continuously replicating cohort. This indicates that fibroblasts have a precise clock or mitotic counter up to a critical limit and when these cells complete their countdown to this limit senescence ensues.

This information has profound clinical implications. If all cells *in vivo* have a finite limit for turnover (albeit highly variable from one type to another) then they could be "run" too hard over time leading to mitotic exhaustion or short of that, be driven into cellular senescence. This would not appear as senescence of a whole organ

but perhaps as localized senescence within an organ yielding an aging focus for certain age-dependent pathological sequelae. A good example is the impact of sunlight on skin producing repeated sunburn. The ultimate result is atrophy in exposed areas and a higher likelihood of malignant cutaneous lesions. Consider the effect of sunlight on persons with a specific gene defect of DNA repair which renders them much more sensitive than normal persons, in the autosomal recessive disorder, xeroderma pigmentosum (XP) (See ref. 5). If you minimize or remove the impact of sunlight on XP skin with clothing or protective creams you can interrupt the expression of that gene defect. The principle is that the expression of defective genes can be mitigated by reducing the action of a specific environmental factor. It is likely that other environmental insults can be identified and their effect on other normal and defective genes controlled. The atrophy of skin occurring in sun-exposed areas of XP or normal persons is also noteworthy. Even though skin has great regenerative potential, the atrophy tells us that the replicative capacity in those areas of the epidermis has been exhausted. In so doing, these cells have become more vulnerable to malignant lesions. To summarize this section, if sufficient "environment" is delivered to a given cellular mass even the best genetic apparatus will be overwhelmed. And if a specific environmental insult is delivered to a defective gene such as in XP the risk is high for early cellular senescence and premature onset of malignancy.

Reduced Response of Old Fibroblasts to Insulin-Like Hormones

A group of hormones previously known as "non-suppressible insulin-like activity" (NSILA), has recently been characterized. They are now frequently referred to as the somatomedins, a small group of insulin-like polypeptides some of which are growth hormone dependent. These hormones, like insulin, exert their effects by first binding to specific receptors on cells followed by the generation of intracellular signals which lead to a pleiotropic response. That is, they stimulate a variety of responses including the transport of nutrients such as glucose and amino acids, and the synthesis of macromolecules such as DNA, RNA and protein. Clearly, therefore, these hormones play a pivotal role in the regulation of somatic growth,

cell differentiation, and perhaps aging. We used one of these hormones to look at the response of aging cells to the stimulation of DNA synthesis. A precise comparison of late-passage (old) and early-passage (young) cells can be made by contrasting their response over a range of hormone concentrations (Figure 5). Young cells show a brisk response up to a maximum plateau. But the dose-response curve of old cells is "shifted" to the right indicating that more hormone is needed to produce a given response. From the response curve one can read the dose needed to produce 50 percent of maximum stimulation, and it is evident that old cells need about 1½ times more NSILA to produce the same response as young cells. Moreover, cultured fibroblasts from individuals with progeria, who are known to be insulin resistant *in vivo*, also have a pronounced shift-to-the-right of the dose-response curve. Thus, they perform like late-passage cells and cells from older donors. The clinical relevance of these observations is clear. Diminished tissue growth and regeneration in older people and in progeria persons may relate to poor responsiveness of cells to insulin-like peptides. In maturity-onset (Type II) diabetes, there is an abundant and often supranormal level of

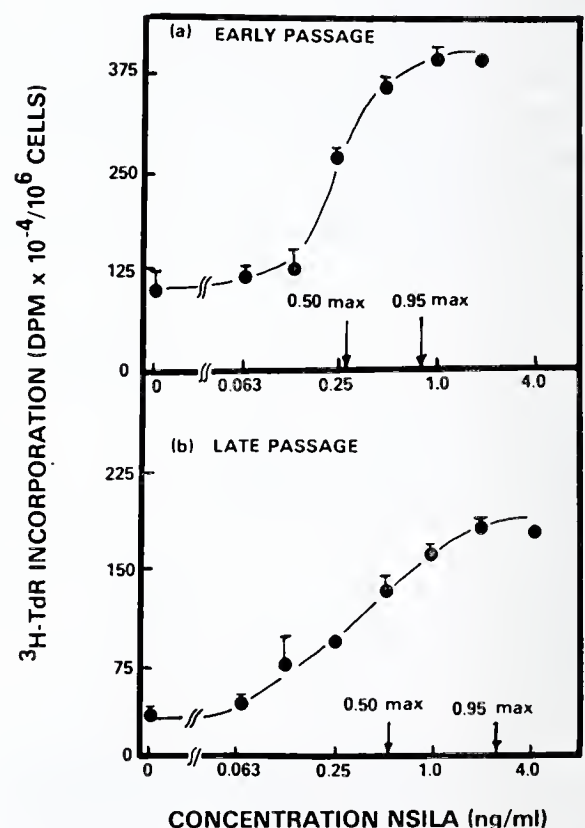


Figure 5. Dose-response to non-suppressible insulin-like activity (NSILA) of early-passage (young) and late-passage (old) fibroblasts. DNA synthesis was measured as incorporation of the DNA precursor ³H-thymidine (TdR) in response to the range of NSILA concentrations shown. (From S. Goldstein and C. B. Harley, ref. 9)

circulating insulin in most cases but the problem resides in the blunted response of peripheral cells¹¹. By further probing the cultured fibroblast it may soon be possible to pinpoint the molecular basis of these age-dependent and diabetic alterations and evolve a rational plan for enhancing the response to insulin and related hormones.

Altered HLA Antigens on the Surface of Fibroblasts

The fibroblast system has also produced interesting insights bearing on autoimmunity and the slackening of immune surveillance that seems to occur with aging. A crucial system here is the HLA supergene locus now known to be located on chromosome 6. These genes are inherited en bloc as haplotypes from each parent so that each parental HLA locus codes for the expression of several specific antigens on the surface of all cells. We studied one of the common antigens, HLA-A2 in a subject with Werner's syndrome cells and normal controls¹². First, we ascertained the exact HLA phenotype on peripheral lymphocytes and found among other antigens that HLA-A2 was present. We then skin biopsied this individual, grew up her fibroblasts and asked the question: Are the HLA-A2 antigens expressed faithfully and continuously on the fibroblasts? Figure 6 shows that Werner's syndrome fibroblasts have lost the ability to bind and remove specific anti-HLA-A2 antibodies from antiserum because they possess few if any HLA-A2 antigens. Therefore, Wern-

er's syndrome fibroblasts have lost or altered their HLA-A2 and perhaps other surface antigens during establishment of the culture or during subsequent propagation. As before, the mechanism could relate to errors, or perhaps to a program whereby the cells have been unable to maintain faithful production of antigens. In any case, aberrant surface antigens may be instrumental in the pathogenesis of some of the lesions seen in Werner's syndrome. We can speculate that the severe atherosclerosis may relate to autoimmune attack on the vascular wall. By the same token, defective immune surveillance may play a role in the high incidence of malignant tumors seen in this disorder. In normal fibroblasts, no such defects in HLA antigens have been found. However, more subtle events creep in such that we can detect clonal diversification. That is, individually purified clones by and large show normal HLA antigen expression but a small fraction do not. This may explain the more limited focal development of lesions in the normal aging process in contrast to the more widespread pathology of Werner's syndrome.

Conclusion

Biological aging and age-dependent disease seem to be separable (Figure 7). Aging is the normal, universal process in a continuum with growth and development, and the independent variable leading to cellular loss and decline of function. On the other hand, age-related diseases may depend in part on the loss of cells and declining function but in other cases may be engendered by simple genetic defects that are inherited through the germ plasm or acquired later in somatic cells. Control of environmental influences should be our first consideration in promoting

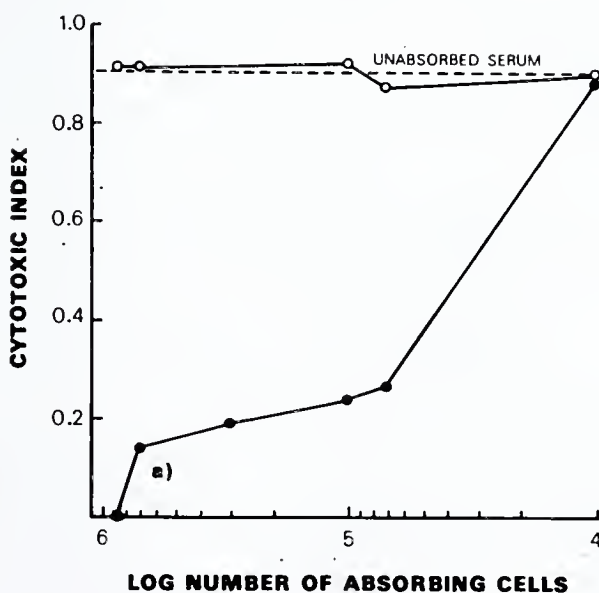


Figure 6. Absorption of anti-HLA-A2 serum by fibroblasts from a subject with Werner's syndrome (o—o) and controls (●—●). Normal lymphocytes served as target cells for assay of residual cytotoxic activity in antisera plus complement. Cytotoxic index stays high at all doses of Werner fibroblasts indicating the presence of few if any HLA-A2 antigens on these cells. (From S. Goldstein and D. Singal, ref. 12)

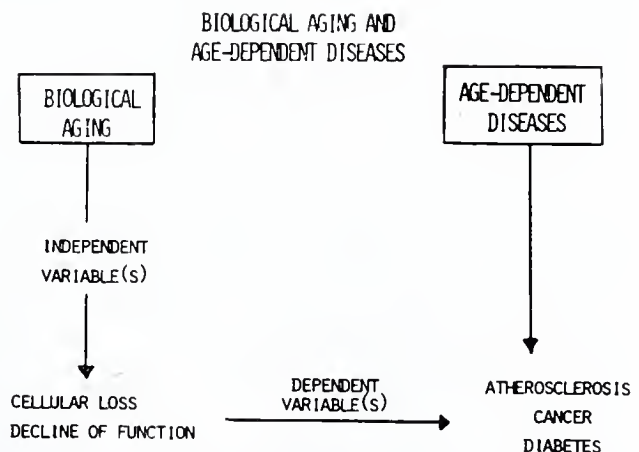


Figure 7. Interrelationship between universal concomitants of aging and frequent pathological sequelae.

vigorous longevity, and such control may be critical when persons who have inherited known defective genes are involved.

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EDITORIAL

Medicine in Economics

Jon Van wrote an editorial which was published on the editorial page of the Chicago Tribune outlining how he viewed organized medicine and free enterprise.

Many people will not agree with some of the ideas in this editorial, nevertheless it is thought provoking. It follows in its entirety as published in a copyright article in the Chicago Tribune.

The AMA Faces Free Enterprise

Jon Van

For at least 20 years, talk of "socialized medicine" has been standard fare at annual meetings of the American Medical Association (AMA). The topic has been as necessary to the festivities as the hospitality suites.

The doctors would use the term in anger, sometimes through clenched teeth, when they referred to a government proposal or policy they believed interfered with their freedom to practice medicine and earn a living just as they wished.

It is significant, then, that at this year's recent meeting in Chicago, one heard those words hardly at all. One resolution denouncing "socialized medicine" was sanitized by a committee that deleted the term altogether.

Another traditionally worded resolution calling for the repeal of Medicaid was defeated outright by a voice vote of the delegates.

There may be some mellowing of AMA delegates who realize that with Ronald Reagan in the White House and the Republicans controlling the Senate, the worst of their fears about government meddling in medicine are behind them.

Yet there is another more important reason the doctors are less shrill about the government. And that reason promises to dominate the economics of American medicine for the rest of the century.

The doctors have felt the pinch of free enterprise. Competition is reducing their patient load and lowering personal income.

Some have yet to recover from the decision in 1978 of the Federal Trade Commission (FTC) to permit doctors to advertise for patients.

The AMA meeting was full of indications that the doctors are facing new and ominous factors in their practice of medicine. A report by the group's long-range planning committee, headed by Dr. Joseph T. Painter of Houston, minced no words about the tough times ahead for the doctors.

"The increasing supply of physicians relative to the population will have significant impact on medical practice," the report said, "since increased competition can be expected. In recent years, physicians' incomes have declined both in real terms and relative to the income of the general population."

Not only are general practice doctors such as family physicians competing with other family physicians for patients, but they also compete with specialists, treating skin problems themselves, for example, rather than referring the patient to a dermatologist.

The report predicts more doctors will take salaried jobs with hospital clinics or health maintenance organizations that compete with doctors in private practice, and it suggests the AMA should be prepared to help its members negotiate favorable contracts, much as labor unions do.

Also foreseen is increasing competition from such allied specialists as physician assistants and nurse practitioners. These professionals have taken on duties during the past doctor shortages that they may not give up gladly during a future doctor glut.

"A new era of competition in the medical field is coming down the pike," Palmer said, "with an

increased number of physicians and changes in how American medicine is organized."

Painter's report to the AMA is just one of many warnings to doctors these days that something is afoot. Victor Fuchs, a Stanford University economics researcher, had much the same message in the prestigious *New England Journal of Medicine* of mid-June.

"In the past 30 years physicians have been the beneficiaries of historical developments that were mostly beyond their control," Fuchs wrote. And he added, "In the decade ahead they are likely to be the victims."

Fuchs referred to the fact that from 1950 to 1979, average national expenditures for medical care and research grew by 5.9 per cent a year while the gross national product grew by 3.5 per cent a year on the average.

The emergence of widespread private health insurance after World War II, the growth of the labor force, and the enactment of federal Medicare and Medicaid programs made this growth possible, Fuchs said.

Since no new programs to trigger such growth for health care spending appear likely and since the number of doctors in practice is expanding faster than the population, Fuchs concludes that growing competition for less money is inevitable.

Fuchs predicts doctors will alter the way they practice medicine to protect their share of that money.

Quoting a colleague, Fuchs predicts that, "If economic survival in the face of competition is at stake, physicians will impose on themselves controls they would never dream of accepting if imposed by government."

Many delegates indicated they expect the AMA to help them face new economic perils, even though they may stem from competitive forces rather than from government regulations.

The AMA board of trustees was instructed to investigate services provided by hospital emergency rooms and outpatient clinics by salaried doctors who compete with private fee-for-service doctors.

The trustees were also asked to persuade insurance companies not to tell patients that their doctor's fees exceed "usual, customary and reasonable" charges when denying payment. Such lan-

guage, one AMA resolution suggested, is inflammatory and causes the patient to think his doctor's fee is exorbitant.

The AMA delegates also voted to tell hospitals that only a licensed MD should ask a patient about his medical history upon being admitted to a hospital. This would exclude nurses or physician assistants from that task.

The delegates also voted to have the AMA oppose any future use of federal money to train more "midlevel practitioners" such as physician assistants, nurse practitioners, and the like.

There was some effort to minimize the friction between medical specialists that has been brought on by competition. The American Academy of Dermatology had introduced a resolution that scolded some prepaid group practices for promoting care by general practice doctors at the expense of specialists. The resolution, however, was voluntarily withdrawn before the delegates could discuss it.

Conflicting interests among specialty groups could prove troubling for the AMA itself, threatening the future of the organization as a spokesman for all of medicine. Much of the meeting was spent enacting a reorganization plan for the AMA intended to boost membership. AMA leaders say that is their major goal for the coming year.

In 1975, the AMA represented 51 per cent of all practicing graduate physicians, but today membership has fallen to 38 per cent.

Although it bills itself as an "umbrella federation" covering all physicians, the AMA itself is often in competition with local medical societies and specialty organizations for new members.

As the delegates raised annual dues to \$285 for next year with future increases set to raise the total to \$340 by 1984, many noted that once a physician pays dues to all his professional organizations, he has often shelled out well over \$1,000.

"Physicians will join the county medical society even if it's no more than a drinking club," commented one doctor, "because that's where they make contacts. That's where you get referrals. They are slower to join the AMA because they don't see an immediate benefit."

The AMA voted to begin recruiting members directly rather than seeking only those doctors who already belong to local and state societies.

A quiet but potent threat to the AMA's claim as a spokesman for all of medicine came from the

American College of Surgeons, with more than 40,000 members worldwide. For the second year, the surgeons declined to send a delegate to the AMA meeting.

Arguing that at least 10,000 of their members choose not to belong to the AMA, the surgeons have pulled out of the AMA because they don't want people to think that AMA positions represent those of the surgeons in all instances.

Dr. James Sammons, executive vice president of the AMA, said that "it is very regrettable they're not present. The AMA needs them. They

need us. I would hope that over time their attitude would change."

Despite contentious factors introduced by growing competition, Dr. Daniel Cloud, a Phoenix pediatric surgeon and newly installed president of the AMA, said his organization "will always be an umbrella group, arriving at our positions by consensus.

"I cannot imagine a situation where we'd back off because of controversy between different factions. If we didn't represent one group to favor another, we'd fail our goal."



"From Other Years"

(From UAMS Library, History of Medicine/
Archives Division)

The Journal of the Arkansas Medical Society
3(6):228 November 15, 1906

Personal Mention

Dr. Henry M. Hurd, professor of psychiatry in the Johns Hopkins Medical School, and secretary of the new Johns Hopkins Hospital, has been given a year's leave of absence and will spend it in travel in Europe, leaving about November 15. His place will be taken by Dr. Rubert Norton, formerly house physician in the hospital. — Dr. G. H. Whipple has been appointed assistant pathologist at the Johns Hopkins Hospital, vice Dr. C. H. Bunting, resigned to accept the position of professor of pathology at the University of Virginia. — Dr. J. Whitridge Williams has been made director of the dispensary with Dr. Thomas McCrae as assistant. — Dr. Pearce Kintzing has returned from abroad. — Dr. Joseph C. Hemmeter returned from abroad October 11, after an absence of five months.

Dr. T. L. Hodges, for the past year representing in Arkansas the firm of John T. Milliken & Co., of St. Louis, has resigned his position effective November 1, and will locate at Gleason, Ark., five miles from Conway, where he has accepted a position as surgeon for the Freeman Lumber Company. The Secretary urged him to unite with the Faulkner County Medical Society as soon as practicable. He promised to place his membership the first meeting. We wish the Doctor success.

Drs. E. Meek and J. P. Runyan of Little Rock, Leonard R. Ellis, Hot Springs, and H. H. Neihuss of Wesson left for Oklahoma City, on October 29, to attend the newly organized Medical Association of the Southwest, which met there October 29, 30, and 31. Other gentlemen may have attended, but we failed to get their names.

Dr. T. J. Robinson has removed to Red Leaf, and requests his Journal to be forwarded to that place. The postoffice authorities have returned his mail bearing stamp "No such postoffice in the State." We would be glad to have the Doctor give his correct address.

Dr. J. F. Brown of Enola has removed to Conway and Dr. I. N. McCollum of Greenbrier has also removed to Conway. These gentlemen have formed a partnership for the practice of medicine in their new home. Success to you both.

Dr. A. W. Brown of Monticello was in Little Rock October 18, on his way to Ft. Smith, to attend the meeting of the Shrine at that place and incidentally watch the boys "hold the rope" and assist them in "crossing the hot sands."

Drs. L. P. Gibson, E. R. Dibrell and Morgan Smith, of this city, have been attending the Pulaski Circuit Court as a witness in the Dr. C. M. Taylor case. Dr. Taylor's will is being contested. The estate is quite valuable.

Dr. W. R. Bathurst, of Prescott, who has been in Europe for the past year studying dermatology, has located in Little Rock, and will devote his entire time to the specialty of dermatology. Welcome, brother.

Dr. C. W. Dixon, the efficient Secretary of the Jefferson County Medical Society, has resigned and removed to Douglas, Ark., while Dr. J. S. Jenkins is filling out the unexpired term.

Dr. J. M. Jelks, of Searcy, Councilor for the Second District, called on the Secretary October 18. The Doctor was enthusiastic about the organization of the second Councilor District.

Dr. E. D. Jones, of Russellville, has sold out and removed to Los Angeles. The doctor has bought a half interest in a practice there and is now taking a post course in one of the Los Angeles schools.

Dr. W. R. Bathurst, who has been in Europe for the past year making a study of dermatology,

has located in Little Rock, and will make dermatology his specialty. Welcome, brother.

Dr. O. C. Struthers, of Stuttgart, has bought a farm near Bayou Meto (Sunshine P. O.) and has removed there where he will continue in the practice of medicine.

The address of Dr. Ollie Oberholzer will be 39-1 Free School Street, Calcutta, India. She expects to reach her new post ready for duty by the first of December.

Dr. J. E. Sparks of Crossett has been appointed local surgeon for the Rock Island System and the Mississippi River, Hamburg and Western Railway.

Dr. Geo. S. Brown and Dr. J. F. Brown, of Conway, stopped in the city on their return from the meeting of the M. V. M. A. at Hot Springs.



MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

Experts representing butchers, bakers, candlestick makers and just about every other human enterprise under the American sun continue to tramp and tread through the maze of details contained in the historic Reagan budget reconciliation and tax cut legislation searching to better understand what's in store for who.

Future federal spending for health care is pretty clear, however. The budget reconciliation measure cuts \$2 billion in health spending over previously projected levels with most of the reductions coming to roost on the Medicaid program.

State governments will have to tighten their belts on the Medicaid program.

Federal matching payments will be reduced by three percent in the fiscal year starting Oct. 1 under the budget reconciliation law. The reduction will climb to four percent in fiscal 1983 and 4.5 percent in fiscal 1984. More than \$1 billion in federal payments to the states will be missing.

The Administration's original plan for a flat

five percent cap on increased federal outlays for Medicaid was scrapped by Congress. The final Medicaid plan followed closely the version of the budget bill approved by the House which voted a three, two, one percent cut over three years. The Senate had proposed a nine percent cap and reduction of the federal minimum contribution to 40 percent from the present 50 percent.

The budget law provides relief for states if they meet certain criteria. The federal cut could be offset by one percent each for operating a qualified hospital cost review program, having an area unemployment rate exceeding 150 percent of the national average and sufficient recoveries from fraud and abuse activities. State-effected savings over a certain percentage also would qualify for upping federal payments.

A controversial Senate amendment that would have repealed Medicaid beneficiaries' freedom of choice of providers was tossed out in conference. Instead, the bill allows states to apply for waivers from the Health and Human Services (HHS) Secretary to eliminate freedom of choice, allowing

states to direct beneficiaries to hospitals or physicians.

The law permits states to require individuals who overutilize services to use selected providers, and allows states to limit the participation of providers found to have abused the program.

The Medicaid section of the budget law provides that states in developing their hospital reimbursement payment rates must take into account the situation of hospitals that serve a disproportionate number of low-income patients. The HHS Secretary is required to develop a model prospective payment methodology for inpatient hospital services designed for use in both Medicaid and Medicare.

States are authorized to buy laboratory services and medical devices through competitive bidding. The HHS Department could allow states to establish cost-effective arrangements for services and drugs.

States are given the okay to enter into Medicaid prepaid risk arrangements with federally qualified health maintenance organizations (HMOs). The limitation on Medicare and Medicaid enrollment in HMOs with state Medicaid contracts is raised from 50 percent to 75 percent of the total membership.

* * * *

The Reagan Administration has told the nation's governors it is committed to achieving the type of block grants favored by the governors.

HHS Secretary Schweiker, meeting with the governors, commended the governors for their support in the Administration's tangle with Congress on the block grant issue. He conceded that the result was a long way from the original goal of turning the responsibility over to the states, but promised an effort will be made next year to put more federal programs into block grants.

In acting on the Administration's proposal to place a wide-range of programs into block grants, including 26 health programs, Congress gave the Administration at best half-a-loaf. About 20 health programs were placed in block grants in the budget reconciliation measure, and most of these were wrapped in restrictions as to how the states could spend the money.

The block grant concept is to place a group of federal programs into a single lump sum allotment to the states with the states then free to spend the money among the various programs as they choose.

Schweiker said the Administration is now working to design the block grants approved by Congress with a minimum of federal regulations so that the states will have maximum flexibility.

White House and HHS officials are beginning a series of regional conferences at all levels of government to coordinate and speed the implementation of the block grants, he said. The emphasis throughout will be on de-regulation, Schweiker told the governors.

* * * *

The nation's medical schools next fiscal year will lose \$40 million in capitation aid under the budget reconciliation law. However, medical school and other health manpower programs in general were not cut as deeply as the Administration recommended.

"Schools of medicine fared quite well compared to the bleak future they would have faced had the provisions embodied in the Senate bill been accepted," said the Association of American Medical Colleges (AAMC). However, virtually all of the money authorization levels in the final budget measure are below the current appropriations for educational activities.

The elimination of the capitation program of general aid for medical schools was a foregone conclusion, since both House and Senate budget bills proposed it. President Carter had proposed killing capitation the last two years of his administration.

On other programs the reconciliation bill:

- Renews the Exceptional Financial Need Scholarship program at levels of \$6 million, \$6.5 million and \$7 million for the next three fiscal years.
- Retains the Health Professions Student Loan program with ceilings of \$12 million, \$13 million and \$14 million over three years.
- Continues the National Health Service Corps scholarship program with awards of \$110 million, \$120 million and \$130 million for three fiscal years, enough money to provide 550 new scholarships each year. The Administration and the Senate had wanted a freeze of new scholarships.
- Funds the Health Education Assistance Loan program at \$200 million, \$225 million and \$250 million.

The National Research Service Awards, of keen interest to medical schools, were extended for two years at \$182 million and \$195 million, substanti-

ally above the \$150 million implied in the Senate bill. The AAMC said that as a result the National Institutes of Health (NIH) in the fiscal year starting Oct. 1 will be able to support between 8,000 and 10,000 trainees.

The final version of the Guaranteed Student Loan program limits eligibility to those students with adjusted gross family incomes of \$30,000 or less, except where students can document need otherwise. All students must pay a five percent origination fee when they receive their loans.

Under the budget law, grants for Departments of Family Medicine were set at \$10 million, \$10.5 million and \$10.5 million; ceilings for Area Health Education Centers were authorized at \$21 million, \$22.5 million and \$25 million.

Other authorizations:

General Internal Medicine and Pediatrics training — \$17 million, \$18 million, and \$20 million; Family Medicine training — \$32 million, \$34 million and \$36 million; educational assistance to disadvantaged people, \$20 million, \$21.5 million and \$23 million; financial distress grants — \$10 million a year; grants for curriculum development — \$6 million, \$6.5 million and \$7 million; preventive medicine initiative — \$1 million, \$1.5 million and \$2 million.

Schools of Public Health were authorized \$21 million over three years for capitation grants, \$10.5 million for traineeships, \$5 million for health administration programs, and \$1.5 million for health administration traineeships.

Aid for nursing education was continued at a much higher level than the Administration recommended. Advanced nurse training was provided \$14 million, \$15 million and \$16 million. Nurse practitioners training received \$12 million, \$13 million and \$14 million. Nursing student loans were granted \$48 million total over three years, and nursing special projects, \$31.5 million.

* * * *

A federal program to encourage accreditation of people who perform radiologic procedures and minimum standards for certification of people who administer radiologic procedures was a surprising provision of the budget reconciliation law.

Since the provision gives much discretion to the HHS Secretary, there is a question of whether such a program will get far off the ground. The Administration had no chance to take a position on the measure which was opposed in previous years by the American Medical Association and

the American Hospital Association, among others, on grounds it would duplicate existing private quality controls.

The bill requires the HHS Secretary to issue regulations promulgating minimum standards for the accreditation of educational programs for training and minimum standards for certification. The bill does not apply to practitioners.

The HHS Secretary also is called upon to develop model state legislation making it unlawful for non-certified people to perform radiologic procedures and to provide that educational requirements for certification will be limited to those programs accredited by the state.

The provision gives the HHS Secretary authority to set guidelines for safe levels of radiologic exposure for medical and dental procedures.

There are no provisions to enforce compliance by the states, but the standards would be applicable to federal agencies.

* * * *

Health insurers lack financial incentives to provide benefits for preventive care, a federally-sponsored cost-benefit analysis has shown.

The upfront cost of paying for hypertension screening or Pap smears is greater than the long-term savings the health insurer can expect to reap, the Congressional Office of Technology Assessment (OTA) concluded.

Though the costs of screening accrue only to the insurer, the benefits are widely distributed. They accrue — in the form of better health and productivity — to the people screened, their life insurers, employers, government, and society. The health insurer's benefits are reduced further because some of the people screened eventually leave the plan.

The OTA report suggested that the government could provide incentives such as tax breaks and financial assistance to establish preventive health programs in the private sector. Public-private partnership is needed, the report said, because prevention programs "are often too expensive for either the public or private sector to undertake independently."

The OTA report was one of 17 case studies of cost-effectiveness analysis of medical technologies.



**SCIENTIFIC EXHIBITS
FOR 1982 ANNUAL SESSION**

The 1982 annual session of the Arkansas Med-

ical Society will be held April 29 (Thursday) through May 2 (Sunday) at the Arlington Hotel in Hot Springs. Dr. Larry Lawson, chairman for the 1982 Scientific Exhibits, requests that any member interested in exhibiting at the 1982 meeting contact him at Post Office Box 1208, Fort Smith, Arkansas 72902.



**MINUTES
COUNCIL MEETING
SEPTEMBER 13, 1981**

The Council of the Society met at 12:00 noon on Sunday, September 13, 1981, in the Camelot Inn, Little Rock, with President Purcell Smith presiding. Others present were Henry, Shuffield, Morgan, Osborne, Crow, Lytle, P. Bell, Hestir, Langston, Warren, Sanders, Harris, Joyce, McCrary, Mann, Jouett, Wilkins, Lilly, Kutait, Saltzman, Watson, Verser, Townsend, Bob Benafield, Tom Smith, Raymond Peeples, Milton Deneke, Thomas Bruce, Stewart Allen, Walter O'Neal, Mr. William Hamilton, Mrs. Raymond Peeples, Mr. LaMastus, Miss Richmond and C. C. Long.

The Council transacted business as follows:

1. Dr. Smith announced the resignation of C. R. Ellis as councilor for the seventh district. Robert McCrary, senior councilor for the district, nominated Jerry Mann of Arkadelphia for the councilor position. Upon motion of Shuffield, Dr. Mann was elected by acclamation.
2. On August 6th, the Executive Committee voted unanimously that:
Any physician who applies for membership for the first year and who is first billed after July 1st will be billed at the rate of one-half of the annual billing.
On August 26th, the Executive Committee reviewed a letter from Dr. Paul Wills, president of the Otolaryngology-Head and Neck Surgery Section, concerning the objection of the section to the prior authorization requirements of Medicaid. They recommended that Dr. Wills be asked to present his objection to the Council at the September 13th meeting.
Upon motion of Wilkins, the Council voted approval of the report of the Executive Committee covering actions of August 6th and August 26th.

3. Tom Smith, representing the Otolaryngology and Head and Neck Surgery specialty group, discussed the Medicaid policy requiring prior authorization for surgical procedures. Upon motion of Wilkins, the Council directed that a letter be written to Social Services stating that the Society shares the concern for costs and the shortage of funds and recommends that all requirements for prior authorization be reviewed and removed as soon as economically possible.
4. The Council voted, upon motion of Henry, not to participate in a project of the American Medical Association on membership recruitment.
5. Lynn Harris reported on information compiled by his ad hoc committee on professional association liability insurance coverage. He presented figures on premium rates and requested that the Council make the decision on purchase of coverage. Upon motion of Jouett, the Council voted to defer the matter until the next meeting so that members may study the figures presented.
6. Joe Verser, secretary of the State Medical Board, discussed the requirement for a year of internship or residency in a United States Medical School affiliated hospital by graduates of foreign medical schools to qualify for a license to practice medicine in the State. Upon motion of McCrary, the Council voted to go on record as opposing any change in the law.
7. The Council received a report from the ad hoc committee appointed to recommend a position on Hospice. The Council approved the recommendation of the ad hoc committee as presented, upon motion of Wilkins. The Council directed that the ad hoc committee report be forwarded to the Position Papers Committee for its information.
8. Dr. Smith reported that F. E. Joyce, Charles W. Logan, Cal R. Sanders, Kemal Kutait, and Lloyd Langston had been appointed to serve with him on the ad hoc committee on a medicine-business coalition. He reported on the first meeting of the committee.
9. Milton Deneke, chairman of the Public Relations Committee, reported on the excellent response to the seminars for personnel in physicians' offices. He reported that a third seminar has been scheduled for Little Rock

because the two initially scheduled could not handle all registrants, and that all other seminars had reached maximum enrollment.

Dr. Deneke also suggested that the Society consider sponsoring practice management seminars and business computers seminars in the future.

10. Dr. Smith reported that he had received a request that students enrolled in the medical assistants course at Arkansas Tech be sponsored by the Society for enrollment in the seminars for personnel in physicians' offices. It was noted that it would not be possible to include the students in the current seminars. Dr. Wilkins indicated that the local medical society and hospital staff would handle the matter locally in the future.
11. The Board of Trustees of the Society Pension Plan reported to the Council. The Council voted to instruct the Board of Trustees of the Pension Plan to go to the Defined Contribution plan. The Council instructed the Board of Trustees to take whatever steps

necessary under the law to implement this plan with the concurrence of our attorney.

12. Upon motion of Henry, the Council voted to confirm the following dates and locations for future meetings:

April 18-21, 1985, Hot Springs

April 3-6, 1986, Little Rock

April 21-24, 1988, Little Rock

The Council also voted to consider having the 1987 meeting in Fayetteville if the facilities there are adequate for the Society's annual meeting.

13. Upon the motion of Wilkins, the Council voted to inform the Committee on Liaison with the Medical Auxiliary that the Society suggests the Auxiliary continue to support AMA-ERF strongly.
14. Upon the motion of Jouett, the Council endorsed the concept outlined by Charles Wilkins for special, called meetings of the Medical Services Review Committee.

The meeting adjourned at 3:30 p.m.

Purcell Smith, Jr., M.D.

Acting Chairman



keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

TED PANOS MEMORIAL LECTURE

Presented by Robert H. Fiser, Jr., M.D., *November 16, 4:00 p.m.*, UAMS Education II Building. One hour Category I credit. No registration fee.

INTRAUTERINE INFECTIONS AND NEONATAL EVALUATIONS

Presented by James B. Kittrell, M.D., *November 23, 12:00 noon*. Sponsored by UAMS. Private dining room, Wadley Hospital, Texarkana, Texas. One hour Category I credit. No registration fee.

CHEMOTHERAPY OF LUNG, BREAST AND COLON MALIGNANCIES

Presented by Michael Perry, M.D., Associate

Professor of Medicine, University of Missouri-Columbia, *December 4, 7:00 p.m.*, In-service Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

NUCLEAR MEDICINE ONCOLOGY

Presented by Drs. Turner Harris and Jerry Prather of Little Rock, Dr. Alexander Gottschalk, Yale University School of Medicine, and Dr. Wayne W. Wenzel, Presbyterian Medical Center, Denver, *January 9, 9:00 a.m. to 4:00 p.m.*, Room E-155, Education Wing, St. Vincent Infirmary. Five hours Category I credit. Registration fee: \$25.00 (includes lunch).

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC-EL DORADO

Surgery Conference, each Monday, 12:30 p.m. to 1:30 p.m., Union Medical Center and Warner Brown Hospital (alternate months).

Medical Journal Club Meeting, first and third Tuesday, 12:30 p.m. to 1:30 p.m., Union Medical Center and Warner Brown Hospital (alternate months).

Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC Conference Room, 409 West Faulkner.

Psychiatry Conference, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Union Medical Center and Warner Brown Hospital (alternate months).

Internal Medicine Conference, each Wednesday, 12:30 p.m. to 1:30 p.m., Union Medical Center and Warner Brown Hospital (alternate months).

Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

Obstetrics-Gynecology Conference, each Thursday, 12:30 p.m. to 1:30 p.m., Union Medical Center and Warner Brown Hospital (alternate months).

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, December 3rd and 17th, 1:00 p.m., Conference Room.

Pathology Conference, December 15th, 3:00 p.m., Conference Room.

Mortality Conference, December 10th, 3:00 p.m., Conference Room.

Peer Exchange, December: "Pulmonary." (Contact VAMC for information.)

HOT SPRINGS — ST. JOSEPH'S REGIONAL HEALTH CENTER

Chest Conference, second and fourth Tuesday, 12:30 p.m., Red Room.

JONESBORO — AHEC-NORTHEAST

Interesting Case Conference, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

Monthly Medical Lecture Series, third Tuesday, 7:30 p.m. Rotates each month between Walnut Ridge and Pocahontas.

Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

Continuing Medical Lecture Series, each Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

Chest Conference, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, second Wednesday, 6:00 p.m. to 12:00 midnight, Human Resources Development Area. Six hours Category 1 credit.

GI Roundup, December 2, 30 and January 13, 27, 12:00 noon to 1:00 p.m., Conference Room #1.

Emergency Medicine Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.

Morbidity and Mortality Conference, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Surgery Conference, each Thursday except first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Anesthesiology Conference, December 17 and January 21, 7:00 a.m. to 8:00 a.m., Dining Room #3.

Case of the Month, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

Central Arkansas Primary Care Conference, second Tuesday, 7:00 p.m. to 9:00 p.m., BMC Auditorium.

Pulmonary Care Conference, each Tuesday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 p.m. to 1:15 p.m., Coffee Shoppe Dining Room #3.

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E155, Education Wing.

Pediatric Conference, first Monday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.

Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.

Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.

Cardiology Conference, second Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.

Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S-1169, Laboratory.

TEXARKANA — AHEC-SW

Monthly Chest Conference, November 18, 12:30 p.m., St. Michael Hospital, Classroom B.



PERSONAL AND NEWS ITEMS

DUMAS PHYSICIAN

Dr. Konghua Go, a general surgeon, has opened an office in the Southeast Arkansas Medical Clinic in Dumas.

PHYSICIAN JOINS CLINIC

Dr. David Staggs has joined the Searcy Medical Center. Dr. Staggs is a Family Physician.

NEW PHYSICIAN

Dr. Douglas Buckley has located in Nashville. He is a Family Physician.

ASSOCIATION ANNOUNCED

Dr. N. E. Strickland of Batesville has announced the association of Dr. John S. Lambert with the Batesville Surgery Clinic.

SEMINAR SPEAKER

Dr. Sue Chambers of Harrison recently presented a seminar on Reye's Syndrome at the Boone County Hospital.

APPOINTMENTS BY GOVERNOR

Governor Frank White has appointed Dr. Steve Venable of Little Rock, Dr. Ed Hammons of Forrest City and Dr. Mike Moody of Salem to the Emergency Medical Services Advisory Council.

LAKE VILLAGE PHYSICIAN

Dr. Daniel Martinez has joined the Lake Village Clinic. His specialty is Obstetrics and Gynecology.

ROTARY CLUB PROGRAM

Dr. Thomas Wortham of Jacksonville spoke to the Jacksonville Rotary Club about a new technique under study for diagnosing hardening of the arteries.

PHYSICIAN LOCATES

Dr. Krishna K. Reddy has joined the staff of the Van Buren County Memorial Hospital in Clinton.

PEDIATRIC FELLOW

The American Academy of Pediatrics recently elected Dr. Robert G. Jeffers of Ozark to Fellowship in the Academy.

HOSPITAL TRUSTEE

Dr. W. T. Dungan of Little Rock was recently elected to the board of trustees of the Arkansas Children's Hospital.

ROTARY SPEAKER

Dr. Curtis Williams of DeQueen recently spoke

to the DeQueen Rotarians on the development of Radiology.

DISTINGUISHED SERVICE AWARD

The Board of Directors of the Arkansas Hospital Association presented its Distinguished Service Award to Dr. H. Elvin Shuffield of Little Rock. The award was given Dr. Shuffield for his many years of work with the Arkansas Legislature.

DR. DANIEL SPEAKS

Dr. N. B. Daniel of Stuttgart spoke to the Stuttgart Junior Woman's Club on the impor-

tance of the family and the physician getting to know each other.

PHYSICIAN ASSOCIATION

Drs. Richard N. Pearson, James H. Bledsoe, and Mario E. Costaldi announce the association of Dr. Frand J. Panettiere. Dr. Panettiere will practice Medical Oncology.

APPRECIATION GIVEN

Dr. Walter P. Harris of Danville was honored by the Yell County Fair Association for his thirty years of service to the area.



NEW MEMBERS

DR. PETER C. DYKSTRA

Dr. Dykstra is a new member of the Baxter County Medical Society. He is a native of Hartford, Connecticut.

Dr. Dykstra obtained his A.B. degree from the University of Redlands in California in 1947. He was graduated from the University of Southern California School of Medicine, Los Angeles, in 1952. After an internship with Los Angeles Hospital, Dr. Dykstra began residency training at Mayo Clinic in Rochester, Minnesota.

From 1953 to 1955, he served with the Medical Corps of the United States Army. Following his military service, Dr. Dykstra had further residency training at the Huntington Hospital in Pasadena, California. From 1956 to 1973, he was associated with hospitals in the Los Angeles area, with the exception of 1962-63 when he was with the Memorial Hospital in New York City. From 1973 until 1981, he was with the Office of Medical Examiner of Los Angeles County.

Dr. Dykstra is board certified in Anatomic, Clinical and Forensic Pathology. He is associated with the Ozark Pathology Association at 14 Medical Plaza in Mountain Home.

DR. J. W. SCARBOROUGH

The Clark County Medical Society has accepted Dr. Scarborough as a new member. He was born in Florence, Alabama.

Dr. Scarborough is a graduate of Birmingham Southern College and the University of Alabama School of Medicine in Birmingham. His internship was with Baptist Medical Center in Birmingham. Dr. Scarborough served one year in an Internal Medicine residency.

Dr. Scarborough is in General Practice at 204 East Walnut in Gurdon.

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The Garland County Medical Society has added three new members to its roster:

DR. MICHAEL C. BODEMANN

Dr. Bodemann is a native of Oklahoma City. In 1973 he was graduated from the Allen County Junior College in Iola, Kansas, and in 1975 he was graduated from the Pittsburg State College, Kansas. Dr. Bodemann was granted his degree from the University of Kansas School of Medicine, Kansas City, in 1978. His internship and residency were with the University of Arkansas College of Medicine.

Dr. Bodemann specializes in Internal Medicine. His office is in Suite #5 at 615 West Grand in Hot Springs.

DR. ROBERT F. McCRARY, JR.

Dr. McCrary is a native of Hot Springs. He received a B.A. from the University of Notre Dame in 1971. Dr. McCrary was graduated from the University of Arkansas College of Medicine in 1975. He served an Internal Medicine internship at the Medical University of South Carolina Teaching Hospitals, Charleston. Dr. McCrary returned to the University of Arkansas College

of Medicine for his residency in Internal Medicine and for a fellowship in Nephrology. He is board certified in Internal Medicine.

Dr. McCrary practices Nephrology at 236 Central Avenue in Hot Springs.

DR. JON R. ROBERT

Dr. Robert was born in Baton Rouge, Louisiana. In 1968, he was graduated from Southeastern Louisiana College in Hammond. Dr. Robert received his medical degree from the Louisiana State University School of Medicine in New Orleans in 1972. His internship and residency were with Charity Hospital of Louisiana, New Orleans.

Dr. Robert practiced in Denham Springs, Louisiana, and Baton Rouge before locating in Hot Springs. He began practice in Hot Springs in 1977.

Dr. Robert, a board certified Pediatrician, has his office at 236 Woodbine in Hot Springs.

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DR. JOHN S. LAMBERT

Dr. Lambert was born in Houston, Texas. He is a new member of the Independence County Medical Society.

Dr. Lambert received his B.S. degree from Arkansas State University in 1971 and his M.S. degree from the University of Arkansas at Fayetteville in 1972. He was graduated from the University of Arkansas College of Medicine in 1976. Dr. Lambert served an internship and Surgery residency with University Hospital.

Dr. Lambert specializes in Surgery. His office is located at 17th and Harrison in Batesville.

DR. MIKE S. McFARLAND

Dr. McFarland, a native of St. Louis, Missouri, is a new member of the Jefferson County Medical Society.

In 1972, Dr. McFarland was granted a B.A. from Hendrix College in Conway and in 1973 an M.S. from the University of Arkansas. He was graduated from the University of Arkansas College of Medicine in 1977. His internship and residency training were with the Louisiana State University Medical Center in Shreveport.

Dr. McFarland specializes in Ophthalmology. His office is located at 1801 West 40th, Suite 5-C, Pine Bluff.

DR. DAVID C. JACKS

Dr. Jacks is another new member of the Jefferson County Medical Society. He is a native of Pine Bluff.

Dr. Jacks is a 1972 graduate of the State College of Arkansas and a 1976 graduate of the University of Arkansas College of Medicine. His internship was with St. Vincent Infirmary. He served a residency with the University of Arkansas Affiliated Hospitals. Dr. Jacks was a clinical instructor with the Department of Urology at the College of Medicine. He is a candidate of the American Board of Urology.

Dr. Jacks specializes in Urology. His office is located at 1724 Doctors Drive in Pine Bluff.

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Two new members have been added to the Pulaski County Medical Society roster:

DR. C. WILLIAM BALL, JR.

Dr. Ball was born in Lake Village and graduated from Eudora High School. In 1973, he received a B.S. from Tulane University in New Orleans, Louisiana. He was graduated from the University of Arkansas College of Medicine in 1977. After an internship at the University Hospital, Dr. Ball returned to New Orleans for a Family Medicine residency with the Louisiana State University Charity Hospital. Dr. Ball is certified by the American Board of Family Practice.

Dr. Ball specializes in Family Medicine. His office is located in Suite 250 of the Doctors Park Building in Little Rock.

DR. PAUL STANLEY SPURGEON

Dr. Spurgeon was born in New Castle, Indiana; he is a graduate of the Columbus High School in Indiana.

In 1970, Dr. Spurgeon was graduated from Purdue University, Lafayette, Indiana. He was graduated from the Indiana University School of Medicine, Indianapolis, in 1975. His internship was with the same institution. From 1975 to 1977, Dr. Spurgeon was in Pediatric residency at Good Samaritan Hospital in Cincinnati, Ohio.

From 1977 to 1979, Dr. Spurgeon practiced Emergency Medicine in St. Louis, Missouri. He was located in Montgomery County, Ohio from 1979 to 1981.

Dr. Spurgeon's specialty is Emergency Medicine. He is associated with the University of Arkansas College of Medicine at 4301 West Markham in Little Rock.

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DR. JAMES D. DOSSEY

Dr. Dossey, a new member of the Washington

County Medical Society, was born in Lawton, Oklahoma.

After attending the University of Arkansas at Fayetteville, Dr. Dossey received his medical education at the University of Oklahoma College of Medicine, Oklahoma City, and was graduated in 1975. He served an Internal Medicine internship with the Tulsa Medical Education Foundation, Oklahoma, and had residency training in Internal Medicine with the University of Oklahoma Tulsa Medical College.

From 1977 to 1979, Dr. Dossey served as Gen-

eral Medical Officer with the United States Navy. In 1979, he began practicing Emergency Medicine in Fayetteville.

In 1980, he served as medical director of the Central Emergency Medical Services in Fayetteville.

Dr. Dossey specializes in Emergency Medicine. He is a member of the Washington Regional Center Emergency Room staff in Fayetteville. His mailing address is Post Office Box 1811, Fayetteville, 72701.

THINGS TO COME

MARCH 25-27, 1982

Second Annual Pediatric Infectious Disease Seminar. Department of Pediatrics, The University of Texas Health Science Center at Dallas. Las Vegas Hilton Hotel. Fifteen hours, AMA Category I. Fee: \$250. For further information, contact: Marian Troup, Seminar Coordinator, Department of Pediatrics, The University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235; phone (214) 688-3439.



STATE MEDICAL AUXILIARY HOLDS FALL MEETING

The State Board of the Arkansas Medical Society Auxiliary held its Fall board meeting at the home of Dr. and Mrs. Frank Morgan (Margaret Ann) in North Little Rock on Thursday, September 10. There were approximately 50 board members, including 15 past state presidents, in

attendance. The state president, Mrs. Raymond Peeples (Bonnie), presided.

Mrs. Betsy Blass, chairman of the University of Arkansas for Medical Sciences Foundation Fund, asked the Board to assist her organization in reaching its goal of raising \$750,000 to meet a 3-for-1 challenge given by an anonymous donor for medical research. The four main areas to be targeted by this research are aging, toxicology, nutrition and a comprehensive rehabilitation program.

At the request of Mrs. Larry Lawson (Nikki), state AMA-ERF chairman, the Board voted to raise the individual participation of the Sharing Card from \$20 to \$25. The Sharing Card is a holiday greeting card sent to each Arkansas Medical Society member listing those individuals or medical groups who have participated. It is one of the easiest ways to raise money for AMA-ERF, and last year through the efforts of Auxiliaries in Arkansas and nationwide, Mrs. Lawson was able to present Dr. Thomas Bruce, Dean of the University of Arkansas College of Medicine, with a check for more than \$20,000.

Mrs. R. E. Glasscock (Kay), chairman of health projects, reported that her committee was seeking to make people aware of the need to make provisions for donating parts of their body for medical purposes at their death. In order to participate in this program, a donor card must be filled out and witnessed by two people. The government provides a \$50,000 tax credit to the estate of anyone who dies and has participated in this program.

The Board discussed at length the three loan funds it supports. The Ilse F. Oates Loan Fund

is used as an emergency loan fund for Junior and Senior Medical Students. The Martha Harding Gann Memorial Fund is a loan fund for Student Nurses, and the Dr. and Mrs. W. R. Brooksher Loan Fund makes loans to students in training for degrees in the para-medical fields. The Board appointed a committee to standardize loan applications and repayment policies.

Mrs. Herbert Taylor (Ramona), state president-elect, presented an award to Mrs. Aubry Talley (Sheila) of Magnolia from the National AMA Auxiliary for the establishment of a new auxiliary in Columbia County. Mrs. Lawson presented a National award to Mrs. Charles Wilkins (Joyce) of Russellville honoring the Pope County Auxiliary for making the largest per capita contribution to AMA-ERF.

Following the meeting, Dr. and Mrs. Morgan served a delicious lunch to the Board. The Winter Board meeting will be held in January at the Baptist Medical Center in Little Rock. Anyone interested in information regarding Auxiliary

should contact Mrs. Herbert Taylor, 211 Tournament, West Memphis, Arkansas 72301, telephone number 732-4494.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The twelve lead recording shows sinus rhythm with first degree block (PR interval 0.32 sec.). The QRS duration is 0.16 sec. with an RSR' pattern in V_1 and a wide S-wave in I. These features imply right bundle branch block. The axis is strongly deviated to the right, a small R-wave is present in I, and a very small initial negative deflection (Q-wave) is present in III, all features of left posterior fascicular block. The monitor strip shows a sequence of three non-conducted P-waves, no changes in the PR intervals, a constant P to P interval, and a wide QRS, all features of Mobitz II block implying conduction disturbance below the level of the AV node. The combination of 1° or 2° AV block with RBBB and LPFB is one manifestation of trifascicular disease. Thus, 1. and 3. are true. The patient was paced.



December, 1981

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Vol. 78 No. 7

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Update on Stapedectomy Surgery

H. A. Ted Bailey, Jr., M.D., James J. Pappas, M.D., and Sharon S. Graham, M.A.*

In any surgical technique, minimal iatrogenic trauma is one primary goal. In stapes surgery, however, minimal disturbance is absolutely CRITICAL for obtaining good hearing results. Over a 22 year period, the senior author (HATB) has performed more than 4000 stapedectomy procedures, using a variety of large fenestra techniques with good results. However, with all of the large fenestra techniques, there has been an ever-present associated risk of some loss in the high frequencies of 2000, 4000 and 8000 Hertz, with associated reduction in speech understanding ability or discrimination, particularly noted over time. There has also been the ever-constant threat of rare but serious sensorineural loss.

The importance of normal hearing sensitivity in the higher frequencies from 2000 to 6000 Hertz has not been sufficiently appreciated in the past. More recently, the importance of these higher frequencies has been demonstrated through data obtained by speech scientists. Certain phonetic speech sounds have long been known to contain primarily high frequency energy, for instance, the "s". With highly sophisticated spectrographic instrumentation, the harmonic effects of vocal tract resonance, known as formants, can be analyzed for each phonetic sound. With formant analysis, it has been demonstrated that many phonetic sounds with primary energy in the frequency range below 2000 Hertz require hearing of second and third level formants for consistently accurate identification. One example is the "g", which has a second formant level at 3000 Hertz. Other phonetic sounds requiring perception of frequencies above 2000 Hertz include the sounds of "f", "v", "th", "ch", "j", "s", "c", "sh", and "zh". Additional research studies have pointed out the necessity of normal high frequency hearing for speech discrimination in the presence of competing noise. Thus, it is now clear that obtaining significant postoperative improvement in the higher frequencies is

essential for understanding speech clearly, particularly in the presence of background noise.

This paper presents results obtained from a change in stapedectomy techniques, to utilization of a small fenestra, and discusses the comparative results obtained with large fenestra techniques to the results obtained with small fenestra techniques. The use of the small fenestra stapedectomy technique reduces iatrogenic trauma and results in statistically significant improvement in hearing threshold sensitivity at 2000, 4000 and 8000 Hertz, and a significant improvement in speech understanding. The small fenestra technique (SFT) also results in a significant reduction in the number of subjective vestibular complaints. This study consists of 100 cases divided into two groups of 50 patients each, one group having the small fenestra technique and the other having a large fenestra technique with either total or partial stapes footplate removal. The definition of a small fenestra in this study is an approximate 0.8 to 1 mm diameter opening in the stapes footplate, just large enough to easily admit a 0.6 mm to a 0.8 mm stainless steel piston prosthesis. A 0.6 mm piston was the most commonly used prosthesis in this series. Currently, a new investigation is under way comparing results of a 0.4 mm piston with that of a 0.6 mm and 0.8 mm diameter prostheses.

TECHNIQUE

All stapedectomies, including the small fenestra technique, are performed under local anesthesia. Initially, loose areolar tissue just superficial to the temporal fascia is taken at a site just superior to the attachment of the auricle. This areolar tissue may be used as an oval window seal in the total or partial stapedectomy, or as a tissue to wrap around the piston and seal off the vestibule in the SFT.

A U-shaped incision is made around the perimeter of the tympanic membrane. After completing this incision, the skin flap is elevated down to the

*The Ear & Nose-Throat Clinic, P.A. 1200 Medical Towers Building, Little Rock, Arkansas 72205.

fibrous annulus, which is dissected out of the bony sulcus. The tympanomeatal flap is swung forward, providing excellent exposure of the posterior half of the middle ear space. The posterior/superior bony canal wall is reduced by curettage for visualization; bone is curetted posteriorly until the pyramidal eminence and the stapedius muscle are well visualized.

Once good visualization has been obtained, the stapes footplate is examined and notation made of the site and appearance of the otosclerotic lesion. The first step in the small fenestra technique includes the use of a calibrated measuring rod, used to measure the distance from the stapes footplate to the undersurface of the incus; this measurement determines choice of the proper length prosthesis. (Figure 1-A)

After establishing a dry field, a series of small perforations are made in the footplate, centered directly beneath the long process of the incus. These perforations are made in a circular pattern, using a sharp straight pick to create a small disc in the footplate 0.8 to 1 mm in diameter. (Figure 1-B)

The incudostapedial joint is then separated. Using pressure from a small hook on the undersurface of the malleus, the motion of the incus-malleus unit is assessed. The stapedius muscle is

then stripped from its stapes insertion with a small hook.

The stapes crura are then weakened near their attachment to the footplate. (Figure 1-C) The posterior crus is first fractured, and usually the anterior crus breaks easily at the same time. The stapes superstructure is removed, leaving the fixed but perforated footplate in position. (Figure 1-D)

The small bone disc in the center of the stapes footplate is removed, without disturbing the surrounding footplate margins or mucosal covering. (Figure 1-E) The removal of this small bone disc, creating the small fenestra, differs from the conventional stapedectomy technique in which the

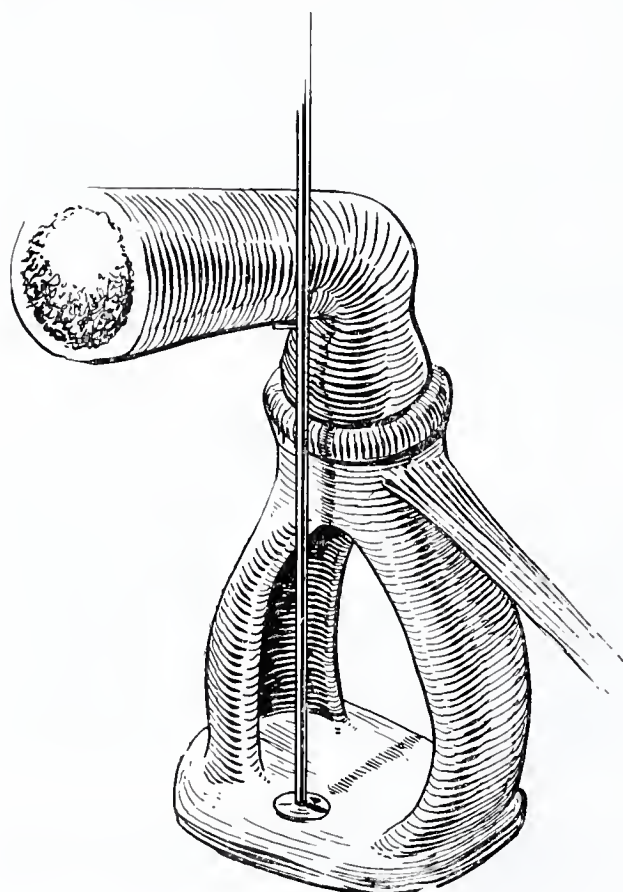


Figure 1-A.

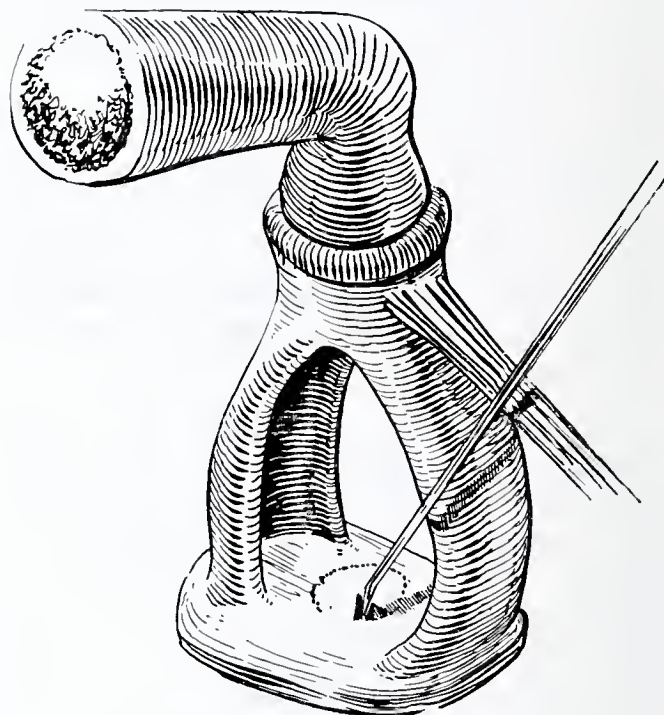


Figure 1-B.

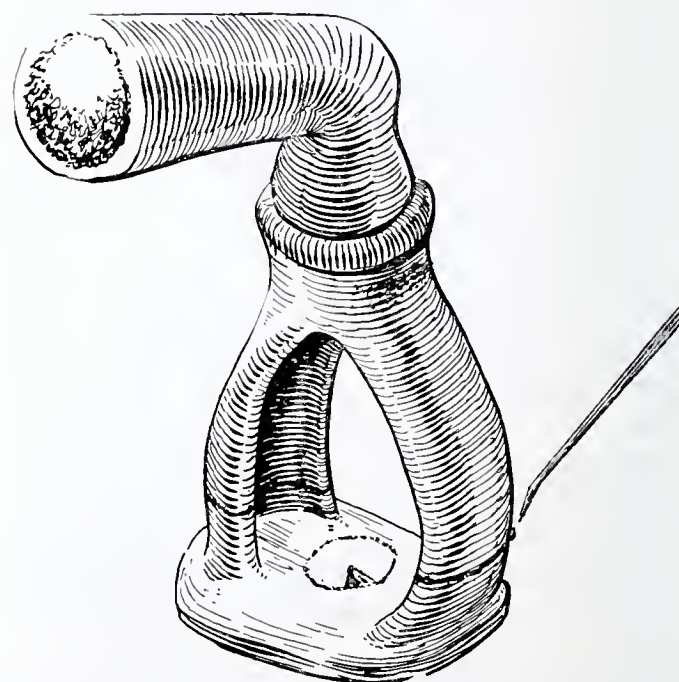


Figure 1-C.

entire footplate is removed. Earlier, it was believed that failure to remove the entire stapes footplate would encourage recurrence and further progression of disease, including recurrent hearing loss. This has been shown not to be true. Following the creating of the small fenestra in the stapes footplate, the proper length stainless steel piston prosthesis is selected. Extension of the piston below the surface of the footplate should be not less than 0.25 mm and not more than 0.50 mm. (Figure 1-F)

The prosthesis is carefully placed in position, first guiding the distal end into the fenestra, while

simultaneously directing the hook of the prosthesis forward anteriorly onto the long process of the incus just superior to the lenticular process. (Figure 1-G) The loop or hook of the prosthesis is

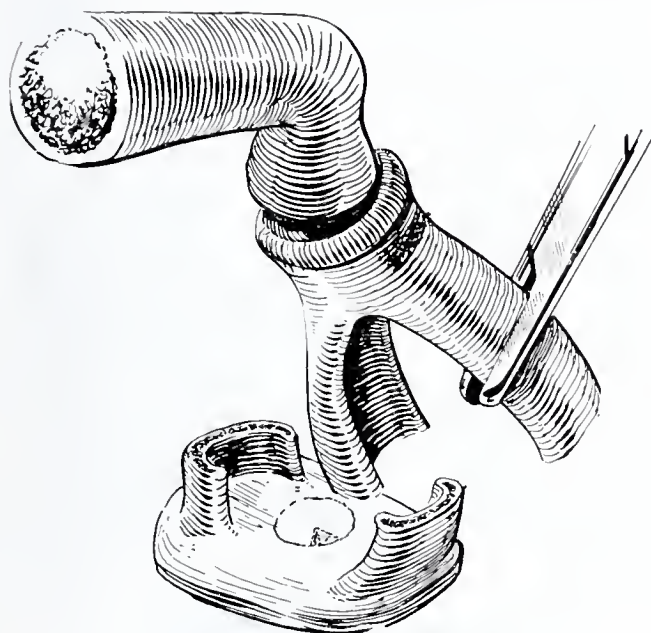


Figure 1-D.

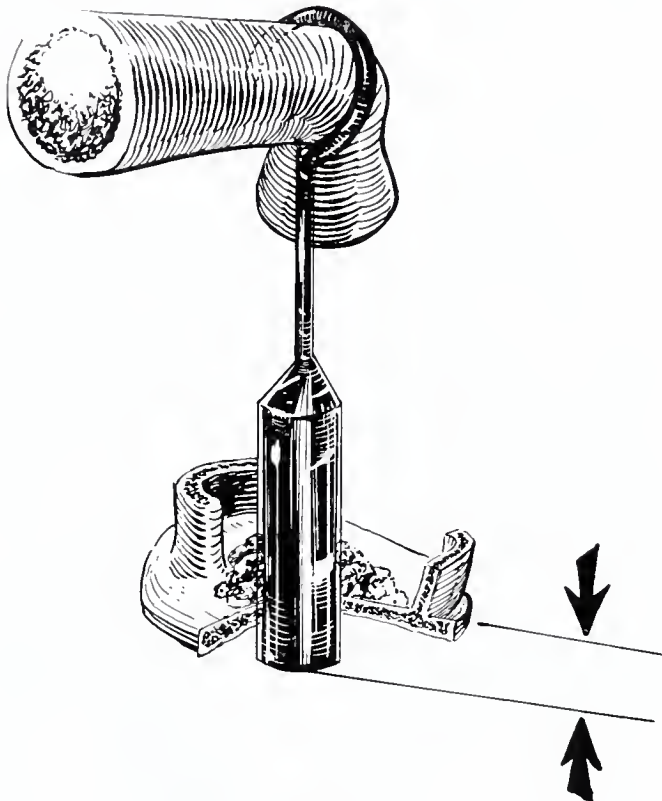


Figure 1-E.

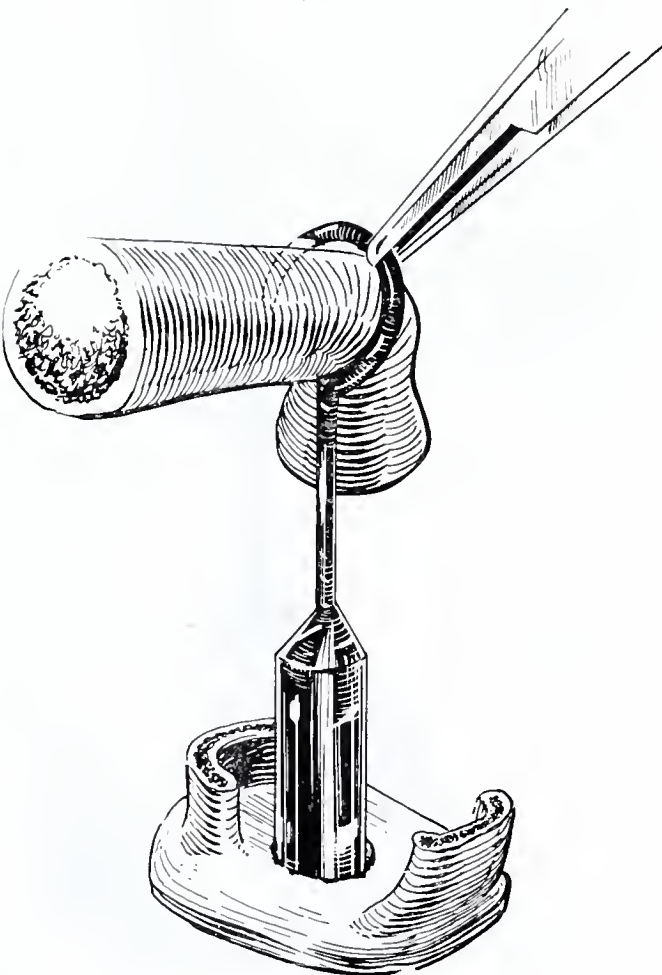


Figure 1-G.

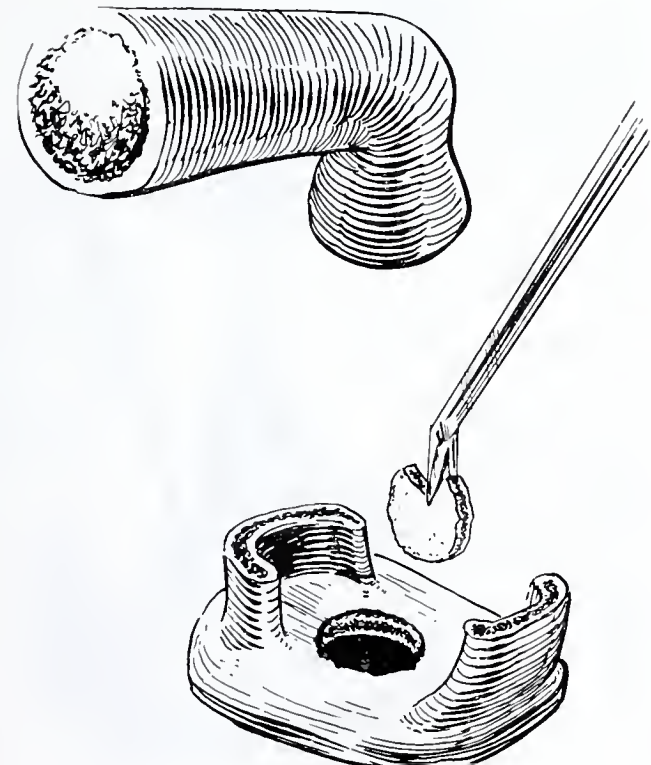


Figure 1-E.

then tightened onto the incus with a wire crimper. (Figure 1-H)

A tiny piece of moist areolar tissue is then wrapped around the distal end of the piston to serve as a vestibular seal. (Figure 1-I) Mobility of the piston is then checked by applying a gentle pressure to the undersurface of the manubrium of the malleus. The tympanomeatal flap is returned to its original position. The patient is then checked for subjective improvement in hearing and for any feeling of vestibular disturbance. A small pad of compressed absorbable gelatin sponge is placed over the flap and incision line and a head dressing applied. No routine preoperative or postoperative antibiotics or steroids are prescribed; and, no postoperative infections have been encountered.

RESULTS

Results of this study of cases appear most favorable to the small fenestra technique. One hundred cases, consisting of groups of 50 cases each, were taken from a series of consecutive cases. Pa-

tient groups were randomized; all cases were evaluated at one month postoperatively, with 41% followed at four months and 16% followed at one year. Results reported are based on the most recent audiometric tests.

Reduced subjective complaints of balance problems were noted in the small fenestra patients, both during and after surgery. One small fenestra stapedectomy patient (2%) did experience acute vertiginous symptoms, with onset at 48 hours postoperatively; these symptoms completely resolved within 14 days. In comparison, 14% of the conventional group reported some mild balance problems in the first few days postoperatively. Analysis by chi square shows this difference to be statistically significant at the 0.05 level.

Hearing results are also most encouraging in this preliminary study. Figure II represents a comparison of complete air bone gap closure, that is, postoperative air conduction achieving a level within 10 dB of preoperative bone conduction, between the two groups as figured at 500, 1000 and 2000 Hertz; at 1000, 2000 and 4000 Hertz; and at 4000 Hertz alone. In the midfrequencies of 500, 1000 and 2000 Hertz, the percentage of complete closure is similar for both the conventional stapedectomy group and the small fenestra group; however, at 1000, 2000 and 4000 Hertz, an advantage is noted in the small fenestra group.

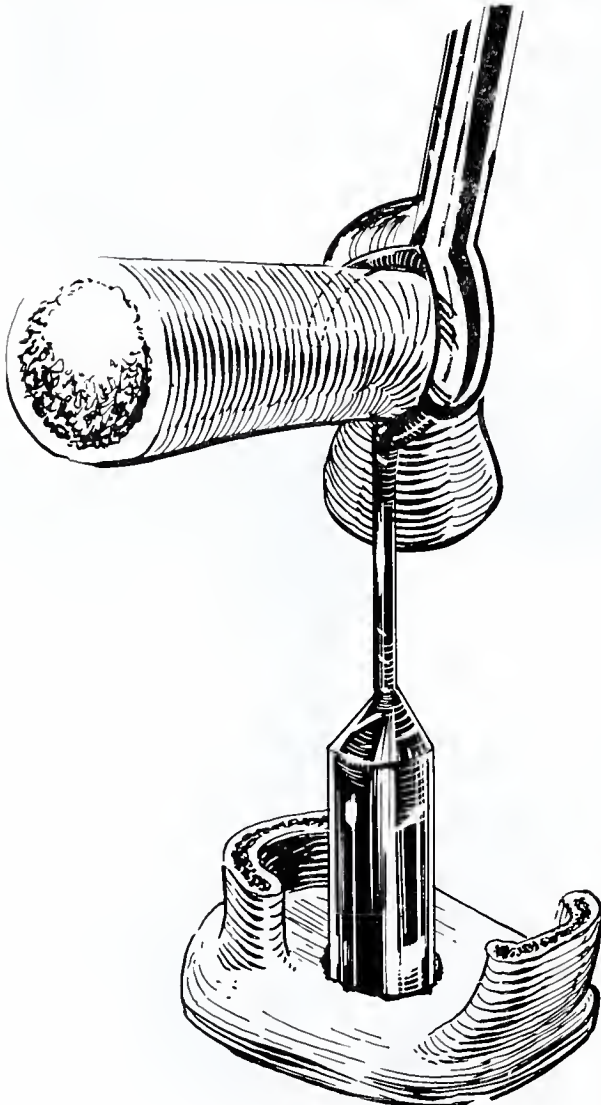


Figure 1-H.

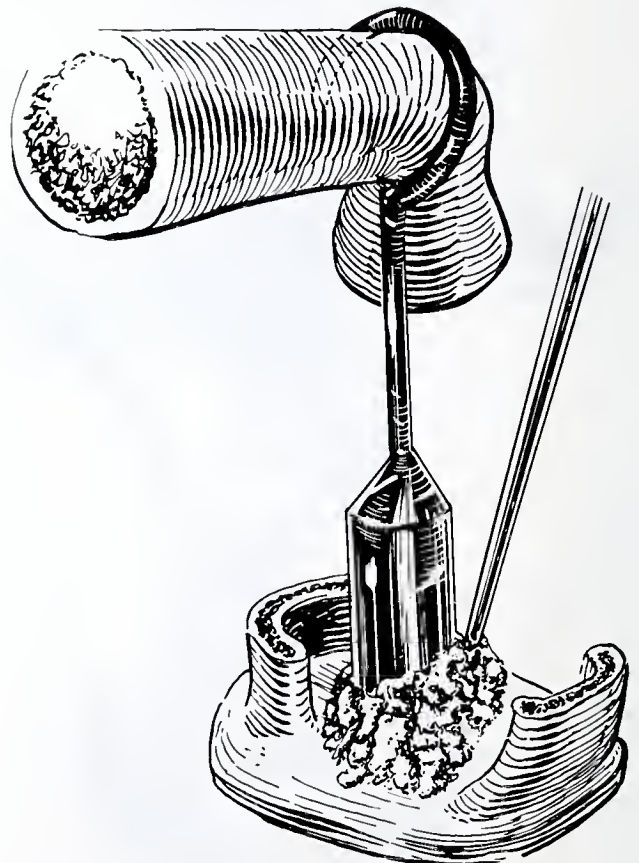


Figure 1-I.

The small fenestra advantage is even larger when 4000 Hertz is examined alone; this difference at 4000 Hertz is significant at the 0.01 level by chi square analysis.

Figure III shows the average improvement in hearing sensitivity at each frequency for both study groups. While postoperative hearing sensitivity at 250, 500 and 1000 Hertz is only slightly greater for the SFT group, a statistically significant advantage is demonstrated by the SFT group at 2000, 4000 and 8000 Hertz.

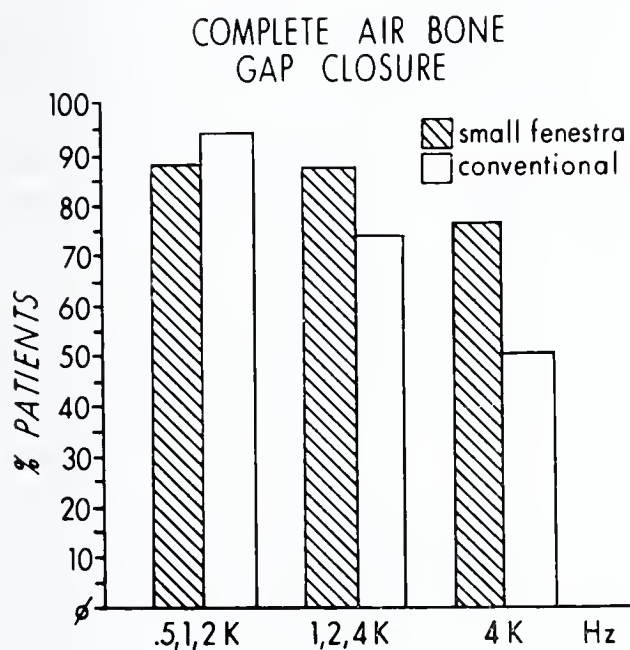


Figure 2.

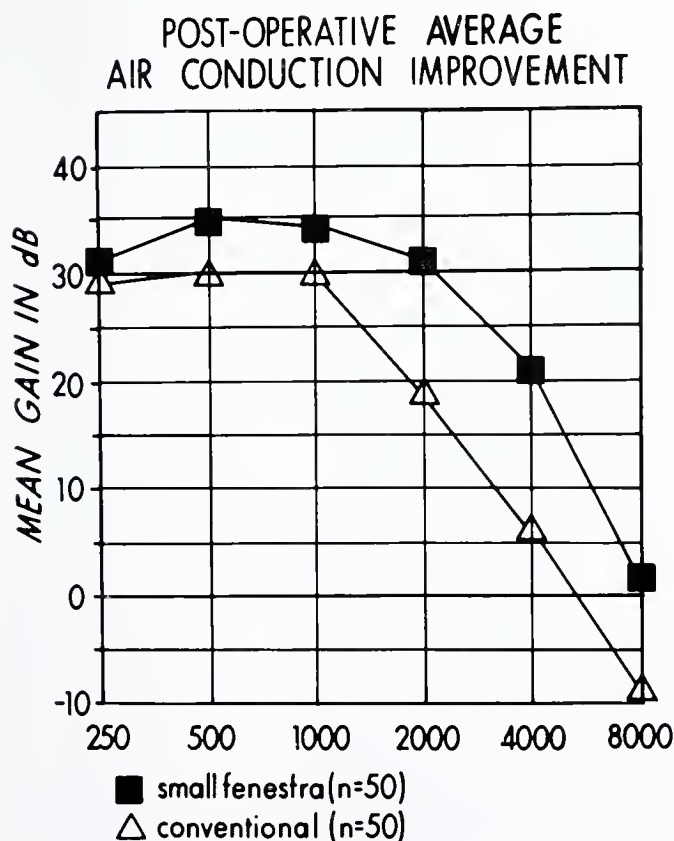


Figure 3.

The importance of improvement in the high frequencies is demonstrated by postoperative speech discrimination or speech understanding scores as compared between the two groups. As detailed in Figure IV, a significant number of the small fenestra patients demonstrated a substantial improvement in speech discrimination postoperatively. To summarize the results of this figure, 96% of the SFT cases showed postoperative discrimination to be equal or better, while only 80% of the conventional cases showed equal or better postoperative speech discrimination. Two percent of the SFT group showed some sensorineural loss postoperatively, as defined by 21% or more decrease in speech discrimination and/or 15dB decrease in bone conduction sensitivity. This 2% occurrence rate of sensorineural loss in the SFT group is compared to 6% rate of occurrence in the conventional group. None of the postoperative sensorineural changes resulted in profoundly impaired ears in either group in this series. There was no incidence of perilymphatic fistula in either group, nor was there an incidence of postoperative tinnitus reported in either group.

DISCUSSION

From the use of the small fenestra technique in this series of cases, the clinical observation has been made that removing as little as possible of the stapes footplate, while allowing admittance of a 0.6 mm or 0.8 mm diameter piston, increases the chances of a hearing improvement in the high frequencies and the chances of improving speech discrimination, while decreasing chances of labyrinthine disturbance. European otologists have reported that hearing results with the small fenestra technique are more stable over time than results obtained with conventional stapedectomy. In addition, other researchers have reported that

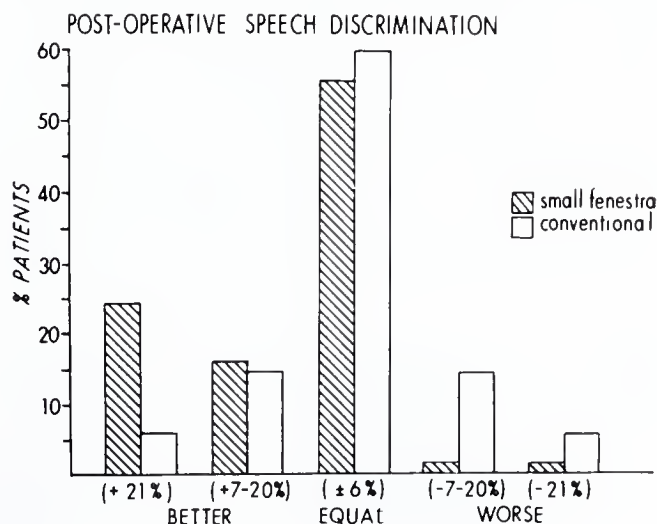


Figure 4.

total footplate removal sometimes results in the stapes prosthesis overlapping the margins of the oval window; this migration of the prosthesis may result in possible fistula formation.

SUMMARY

When the same goals can be accomplished with surgical variations, the procedure of choice should be that which entails the least surgical trauma. The small fenestra stapedectomy technique represents a significant reduction in actual surgical trauma and potential risk in stapes surgery. It does appear that there is an inverse relationship between the size of the opening through the stapes footplate into the inner ear vestibule and the degree and extent of any adverse inner ear labyrinthine reaction. There are a variety of conventional total stapes footplate removal stapedectomy techniques currently in use which do produce

good results; however, the data presented here suggests that the small fenestra technique offers the opportunity to obtain better results in high frequency hearing sensitivity and speech discrimination ability, while at the same time minimizing labyrinthine trauma and thus reducing the risk of permanent sensorineural loss. With such minimal surgical disturbance and reduced risk, the small fenestra technique appears greatly preferable, even in the unlikely event that expanded case numbers demonstrate results essentially the same as those obtained with conventional stapedectomy procedures. Further investigation of the small fenestra technique in stapedectomy surgery will focus on the optimal size of the fenestra, the optimal type of piston prosthesis and the interrelationship of these variables with improved hearing results.



Paranoia Malpracticum**

Mr. James A. Williams*

When I was invited to speak to the Arkansas Medical Society, I was given an opportunity to address you about a subject of my own selection. Even when faced with the reality that the major portion of the program would be filled with scientific and medical dissertations later to be published in a prestigious journal with hundreds of footnotes, I determined that I would like to speak to you about a matter more pragmatic in its emphasis than scholarly and which has been of increasing concern to me and other attorneys attempting to represent health care providers in so-called "malpractice litigation." The paper has been given the title "Paranoia Malpracticum," not because it is good Latin, but in part because it will get your attention and in part because in a crude way it explains the unfortunate malady which grips many of the members of the medical society creating problems in the defense of litigation and yet rarely is openly and honestly discussed.

What I have determined to say to you today is not so much born of any particular legal or medical research, but instead is a culmination of some observations made over a period of nearly thirty years of practicing law, twenty-five of which have involved defending physicians and health care institutions of various kinds mainly on the defense side of the docket, although I confess to having brought a suit or two against someone who, of course, did not exercise just poor medical judgment but instead violated the basic standards of medicine.

The malady about which I speak probably is harbored in the minds of virtually every physician attending this meeting. It is a combination of a natural concern or fear of the unknown much as a patient fears an operating room and a suspicion and even a sense of persecution by another profession, i.e., the legal profession, and those who happen to be patients of physicians at one time or another. Because the condition about which I speak and which I have designated Paranoia Malpracticum generally involves the legal profession at whatever level it is entertained, it creates some difficulties in the handling of claims and litigation by the very attorneys who have been chosen to represent you in given cases and this must be

addressed honestly and forthrightly if we are to make a good team to defend you and your colleagues.

This condition concerns itself in three general areas and if I may, I will outline them for you.

The first is the general threat of litigation which seems to hang over the medical community at all times. It is written about in learned medical journals, in a journal called *Medical Economics*, in the *Journal of the American Medical Association*, and in virtually every other general publication of medical societies and organizations in the United States. Unfortunately, in some of these publications, it is not written about very accurately and raises both fears and hopes within the medical community which are ill founded. It is this general area of litigation threatening the medical community as a whole which gives rise to and nourishes the seeds of a type of paranoia which thrives in the medical community in virtually every area of the country. It is talked about at meetings of this kind; it is discussed in doctors' lounges at various hospitals; it is talked about at cocktail parties. From my own personal experience most of what is heard is ill founded gossip.

The second area of concern which is far more specific and far more threatening to most of you is litigation brought against specific individual members of the medical society. When the law enforcement officer hands the summons and complaint to one of you in a specific piece of litigation naming you as a specific defendant, the culmination of the cultivation of your natural fears and concerns about malpractice litigation comes to full maturity and it becomes very difficult for a careful self analysis of your own conduct in the handling of the medical problem involved in the litigation and it becomes even more difficult to face the defense attorney selected to assist you in the handling of the litigation because, even though he did not bring the suit, he is the personification of the profession which is the enabler of the patient to bring the suit.

The third area which I would like to discuss with you is malpractice litigation affecting those of you who have been sued and which cases actually come to trial and are submitted to a court and a jury for final determination. Unfortunately, the same condition which was given nurture and

*Bailey, Williams, Westfall, Lee and Fowler. 21st Floor, One Dallas Center, 350 North St. Paul Street, Dallas, Texas 75201.

**Presented at the Annual Meeting of the Arkansas Medical Society, April 26-29, 1981, Little Rock, Arkansas.

encouragement by those publications addressed to the medical profession, still exists. The same fears and concerns which reach their peak as the lawsuit was brought against the individual have not gone away and in too many instances it is even more difficult for the defendant physician to be objective in the assistance of his attorney in the handling of the case to a conclusion.

As the title of this paper suggests, what I really came here to talk to you about are the symptoms of this malady, what I have observed in my practice as the general cause of these symptoms, and a proposal for a cure of this disease which in the final analysis will inure to the benefit of the medical profession generally and to individual physicians against whom litigation is brought.

With respect to the very general nature of malpractice litigation which has been rising not only with respect to the medical profession but other professions as well including my own, I have suggested there is a general phobia within the medical community about the threat of malpractice litigation. This renders general disservice to the medical community and to the public at large because it leaves very little room for a reasoned discussion of the real causes of malpractice litigation and those things which can be done to reduce the threat. Unfortunately, those who write about this problem in various publications seem generally to be more interested in whetting your appetite for the next paragraph of mis-information rather than imparting good solid data for you to digest. I learned a long time ago that when I read an article in a publication directed toward the medical community, I need to be prepared to do some research about the reports dealing with medical malpractice litigation whether in general terms or in specific terms because the accuracy is not notorious. I frequently have been referred to an article in a particular publication by one of my clients or someone who knows I have a specific interest in defending the community and when my natural suspicions combine with some observations which indicate the author is not too interested in accuracy, I frequently contact one of the attorneys who was involved in the case or the situation about which the article is written, usually the defendant's attorney, and I find that the reporter has taken such liberties in his article with the recitation of facts and results that it is difficult to understand how he could have been acquainted with the case even slightly. I submit

to you that except for the medical community's willingness to accept this sort of journalism and enjoy some kind of vicarious response which encouraged it, the reporters would become more accurate in their writing and do a better job of dealing with the problems and assisting the medical community.

Another symptom which seems to pervade the community is the constant general talk reciting all kinds of bizarre results in given cases. Some of this arises because the affected defendant has misreported an experience he has had in order to justify his anger. By the time it has passed through three or four hands, it is somewhat like the children's game called "gossip" in which the original story is started at one end of the line and reaches the other end of the line hardly resembling the information originally passed.

Perhaps the most serious problem in this general area is the fear of the judiciary and the jury system and a general lack of confidence in the courts. This is perhaps the least well-founded symptom because if one looks at the result statistically, the medical profession has been overwhelmingly successful in defending itself and when one examines results from a medical standpoint, I think it will be found that in very rare instances is there a verdict returned against a physician which is not justified and I can assure you that there are more cases of actual malpractice found not to be so by juries and courts than the converse. Perhaps this general fear of the court system as far as the medical community is concerned is the most dangerous because it leads to considerations of arbitration panels, trial by a single judge rather than a jury of peers from the community and other procedures which have been demonstrated both in this country and in England to lead not to a more just result but to one which most thoughtful people consider dangerous to a free society.

Some of the symptoms which we find present where litigation actually is brought against individuals are more easily understood and rather natural in their manifestation. First of all, there generally is a feeling of anger at the patient bringing the litigation and there generally is anger directed at the attorney who represents the litigant. As I already have mentioned, there is a fear generally of the legal system itself probably because it is an area of unknown and with which the physician really has little familiarity. Frequently, there

is a feeling of disgust and general rejection of society which would allow this kind of thing to happen to one and sometimes there even is a threat to leave the medical profession because a particular piece of litigation has been brought with which the physician is offended. I know of at least one case where the physician made such a threat, delivered upon the promise and now is a prosperous farmer. It took only one lawsuit to accomplish that result.

Another rather prevalent symptom is the feeling of having one's expertise and knowledge actually threatened and severely brought into question resulting frequently in loss of personal confidence and such overcaution as to render good care difficult. Most physicians do not accept the fact that the patient and attorney may be asserting that the physician, although a fine physician doing a very fine job in the practice of his profession generally, is accused of having made an isolated mistake in a particular given instance as anyone can do with the demand being made for damages to restore the patient's well being at least financially. Still another symptom we see all too frequently is the urge to sit down with counsel and plan a strategy either to put off the litigation or to play games rather than effectively utilize the rules of the legal system so that the physician actually has his best chance to prevail. This sometimes includes an alteration of medical records, an effort to avoid disclosure of certain medical information held in records and even a rank invention of information in an effort to thwart the patient. Frequently there is an unwillingness to acknowledge even the most minor error in judgment or a mistake in the handling of a procedure. All too frequently there is an assumption of an attitude that the physician cannot make a medical error. Defense of cases under these circumstances becomes expensive and very frustrating.

All too often there is a failure to be honest and straightforward with the attorney who is selected to represent the physician who has been sued. Sometimes a physician, even though he has not attempted to alter records, will find it inconvenient to obtain information for and deliver information to his own attorney simply because he is not quite sure how his own attorney is going to react to that information. This symptom also contains in it a general fear or distrust of the legal community and sometimes it takes quite a bit of assurance to a physician before he is willing to be

absolutely faithful to his responsibility to tell his attorney everything and to provide him with all of the assistance he can muster. This same failure to cooperate with his attorney frequently will carry over to the litigation once it goes into trial and its worst manifestation at that stage is the refusal of the physician to allow the attorney to try the case. In these instances, the physician will take the witness stand and instead of just answering the questions which are propounded to him, he will try to take over the manipulation of the evidence and the thrust of the questioning by giving information he has not been asked to give and in effect he takes the stand and decides to defend himself. Generally, physicians make very poor lawyers and as a consequence I have great fear when I have someone in my care who thinks he can defend himself. I think one of the worst manifestations of this symptom I ever have seen was in connection with the trial of a case in Dallas when an orthopedic surgeon of considerable talent and particularly well trained decided on the witness stand to take matters into his own hands and defend himself. In spite of my doing everything I could to stop him, he persisted and it was obvious that the jury was becoming angry. One could just read it on their faces. The situation deteriorated to the point the court decided he could call a recess and give me an opportunity to settle down the physician. As soon as the recess was declared, the physician and I returned to the conference room and I would hesitate to repeat what I told him. I certainly would not want it recorded for posterity. However, I daresay he can repeat some of it if he were asked to do so today. It was the only way I knew to handle the situation and fortunately it was successful. He resumed the stand, behaved himself and very soon had the jury eating out of his hands. At the conclusion of the trial which the physician won, the foreman of the jury confided to me in the presence of the physician that the case very nearly was lost because of the physician's conduct on the witness stand which was nothing more than an attempt by the physician to handle the case in his own way.

There are a number of causes for these various symptoms which I have mentioned as well as many others which could be made the subject of this paper. Some of these you may not wish to hear about, but I think it is incumbent upon me to spell them out to you for in doing so I believe

I can help you be of assistance to yourself and others in future litigation. First, I think most members of the medical community live in a rather isolated world and have so lived for a rather long period of time. If you will look back upon your education, you will find that most of you have isolated yourselves from a very early age and very specifically at medical school and postgraduate training. I suspect if you are willing to examine your undergraduate background, you will have some rather gaping holes in your liberal studies program. Some of this even may go back into high school. I submit that when one fails to study sociology, psychology, history, philosophy, religion, literature and the subjects generally defined as the humanities, when one is required by the very nature of his profession to isolate himself from society over a long period of time in order to prepare to handle ill patients and when one spends most of his time dealing with those in society who are ill almost exclusively, it is likely to cause a failure of the kind of understanding of human nature and the reasons for the public attitude toward litigation which results in some of the reactions by medical people which I have outlined for you.

Secondly, as I have mentioned, there is a general lack of understanding of the legal system which exists in the United States and most physicians are ill prepared to cope with it when necessary. You are not alone. We simply do not educate our people as to how the system functions and why it is so designed.

As I previously have mentioned, the unfortunate use of publications to impart inaccurate information to the medical community and thus influence the members' attitudes toward the legal system in general and to medical malpractice litigation specifically may be one of the major causes of attitudes which ultimately inhibit the physician from being of the kind of assistance to an attorney he should be. I should not indict those publications directed solely at the medical profession itself because certainly publication of statistical information and other data by the insurance industry has been significant in its influencing of attitudes within the medical community. The insurance industry too often is willing to report results in such a fashion as to influence significantly the relationship between the medical community and the insurance industry and too often the reporting is less than absolutely accurate.

Utilizing statistics to prove most anything has been a common game in the United States for many years and the insurance industry is not above engaging in such activities.

The financial burden of insurance itself is an influence in the attitudes of the medical community. Certainly in recent years there has been a dramatic rise in the cost of medical malpractice insurance. However, in terms of the overall economy I doubt that the increase in cost is too dramatic particularly when one considers that insurance premiums for medical malpractice coverage twenty years ago were as deflated as they might be considered inflated today.

Although I do not attempt to provide a definitive list of the causes of the attitudes which many of you experience, I would be remiss if I did not mention the influence of ego. This comes into play I think when an individual is confronted with a former patient who files suit against him. Quite naturally the physician's ego is a bit torn. This is understandable, but one should not allow this to get in the way of a critical self analysis and objective evaluation of the facts of the case or the all important requirement that the physician maximize his assistance of his attorney in the defense of the litigation. To be sure anyone who has been sued will carry that bruised ego for many years. How one handles the bruising could determine the outcome of the litigation.

One other element which should be mentioned and which is discussed frequently is the fragmentation of the medical community into highly specialized areas and even into subspecialties so that the patient may not have the kind of relationship with a physician which allows a measure of understanding which could avoid litigation. In addition, I think it is well recognized that the medical community today is treating patients whose parents and grandparents were born and buried without ever seeing a physician. Certainly these people cannot have the relationship with the medical community historically that would permit the kind of understanding your predecessors had with their patients. Too often this aspect of your relationship is one that is not unlike the owner of an automobile and his favorite mechanic — like taking the automobile into the shop to get it fixed up, he brings his body to you to be fixed up and if you fail he becomes angry.

What is the cure for the malady which I have discussed briefly with you? I think I would be-

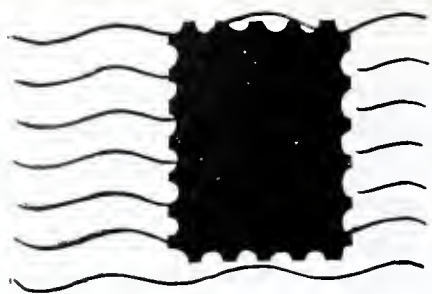
a fool if I tried to give you too many definitive answers but I am willing to tread upon some thin ice in order to make a few suggestions. Each of you should make it your business to learn more about the legal system. It affects our daily lives in a significant way whether or not we ever are confronted with litigation. One does not have to enter law school in order to gain a good measure of understanding of how the system works. Do not avoid jury duty. Take the opportunity to sit upon a jury with your peers and solve the problems of your fellow citizens as a juror. It will give you some insight and understanding which I submit will be very comforting to you. Concern yourself with human nature. Understand the socioeconomic makeup of your entire community, not just the area in which you live, understand the effect that philosophy and religion have upon the attitudes of people and learn to respond to those kinds of backgrounds with which you may not be entirely familiar. Make an effort to understand the history of man through history itself and through the manner in which man has written in literature over the centuries. In short, involve yourself in a new study of the humanities and apply it with your knowledge to your relationship with your patients. Give fair notice to the medical societies and those who write for and to the medical societies that you are unwilling to react to information provided unless you have reasonable assurance that it is accurate. When you read a good solid scare story appearing in *Medical Economics*, find a friend who is a lawyer and ask him to make a phone call or two for you and find out whether the story is accurate. It is easy to do and if you find inaccuracies, write the editor and tell him to get off your back. When an insurance agency tries to feed you an overwhelming barrage of statistics about why the premiums must rise so dra-

matically in Arkansas, analyze those statistics and get some assistance in doing so and shop around for your insurance and make the best deal for yourself you can. Do not leave it up to your agent. He may not be overly interested in seeing you go to some company which he does not represent but who has a lower premium.

Finally, perhaps the most important message I could impart to you is to resolve your conflict imagined or otherwise with the legal community and work with your attorneys who represent you in litigation. Be ready and willing to go to the courthouse and try a case in order to defend a proper position. Be willing to be of assistance to other physicians and attorneys who need your help. When a physician or his lawyer calls and says we need you as a witness or we need your advice and counsel, be willing to give it and be generous with your time and effort. Be willing to discuss your own encounters with the legal system with those within your peer group who have not had that experience. It will assist them when their time comes. A free and open discussion of this sort of problem in my judgment will make the path you must follow much easier and enable you and your attorney to have a much better chance of success.

Unfortunately, there is not time to discuss all the symptoms, all the causes or even all of the recommendations for cure of the condition about which this paper is written. However, if I have done nothing more than cause you to think and to discuss and to begin to deal more forthrightly and straightforwardly with the attorneys who are called upon to represent you in various cases, I have done what I have come here to do. In the final analysis, you will be the victor. Thank you for having me. I have enjoyed it very much and I look forward to visiting with you again.





LETTERS TO THE EDITOR

Dear Editor:

Nuclear weaponry, the accelerated arms race, and the potential for worldwide devastation have been recently discussed in the medical literature and warrant consideration by Arkansas physicians. The following brief review and comments are offered as a letter to the editor of the Society Journal to promote discussion and thought on these most important issues.

Dr. Howard Hiatt in a J.A.M.A. editorial entitled "Preventing the Last Epidemic" argues that awareness of the full-blown clinical picture" of unparalleled blast, burn, and radiation death and injury from a nuclear war mandates avoidance of this catastrophe as the only prudent choice.¹ Dr. Martin Eastwood in a recent Lancet cites the breakdown of medical services during the previous experiences with nuclear weaponry:

... at Hiroshima only 3 of the 45 hospitals were left unscathed. There were 150 doctors, of whom 65 were killed outright and most of the remainder were wounded. Of the 1780 nurses, 1654 were dead or too badly wounded to work.²

The opportunity for physicians to effectively participate in the prevention of such a health disaster is persuasively argued by Dr. Bernard Lown in N.E.J.M., who implies that perhaps this opportunity is a responsibility:

Other threats to the public health have generally led to prompt responses from the medical profession. Legionnaires' disease and a potential influenza epidemic have produced wide-ranging dialogue among physicians, extensive coverage in scientific journals, and a concerted effort to contain the problem, but these health issues diminish in comparison with the consequences of nuclear war.³

One must also acknowledge the international breadth, including Russian, of physician concern. Dr. Evgueni-Ivanovich Chazov, Deputy Minister of Health of the Soviet Union (and cardiologist

to Communist Party Chairman Leonid Brezhnev) states:

... it is no longer acceptable for a physician to spend his life trying to save the lives of a few people, and, at the same time, ignore the existence of nuclear weapons and not fight for their destruction, because nuclear weapons are capable of destroying most of mankind.⁴

In Arkansas, the presence of the 17 Titan missile silos and the ever increasing accuracy of both American and Soviet missiles (which are currently accurate to within several hundred yards), undoubtedly means there are Russian military planners whose knowledge of Arkansas topography would shame many lifelong residents. The Damascus accident resulting in an undetonated nuclear device being blown into a nearby field added credence to the arguments heard worldwide regarding potential for accidental nuclear disaster. Recent discussions of converting Titan silos to MX system facilities at least keeps us reminded of the deadly products stored in our silos. Arkansans are likely to be very active participants should the "last epidemic" occur.

Physicians for Social Responsibility (PSR) has 5000 members nationwide, including 35 Arkansas physicians. PSR has responded to this medical threat of nuclear war by participating in educational and political discussion regarding the dangers of nuclear weaponry. The basic tenets of the organization are the following:

(1) Nuclear war, even a "limited" one, would result in death, injury and disease on a scale that has no precedent in the history of human existence.

(2) Medical "disaster planning" for nuclear war is meaningless. There is no possible effective medical response. Most hospitals would be destroyed, most medical personnel dead or injured, most supplies unavailable. Most "survivors" would die.

(3) There is no effective civil defense. The blast, thermal, and radiation effects would kill even those in shelters, and the fallout would reach those who had been evacuated.

(4) Recovery from nuclear war would be impossible. The economic, ecological and social fabric on which human life depends would be destroyed in the U.S., U.S.S.R., and much of the rest of the world.

(5) In summary, there can be no winners in a nuclear war. Worldwide fallout would contaminate much of the globe for generations,

and atmospheric effects would severely damage all living things.⁵

These stark realities leave prevention as the only hope for avoiding a nuclear catastrophe. PSR urges Arkansas physicians to participate in this preventive effort. As stated by Arkansas PSR state coordinator Dr. Arlo Kahn:

... in the interest of protecting human life, we appeal to people to educate themselves, friends, and congressmen about the hazards of nuclear war, so that together we may work to defuse the current tensions between countries, ban the use of all nuclear weapons, recognize the threat posed by the very existence of our enormous nuclear arsenals and begin dismantling them.⁶

The military and political issues may seem remote to Arkansas physicians; but should this terrible event occur, the physicians would be responsible for coping with the horrible consequences. Now is the time to recognize that responsibility and to begin to prevent such an unthinkable disaster.

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PREVENTING THE LAST EPIDEMIC

A 20-year-old man was recently hospitalized in the burn unit of one of Boston's teaching hospitals after an automobile accident in which the gasoline tank exploded, resulting in extensive third-degree burns. During his hospitalization, he received 281 units of fresh-frozen plasma, 147 units of fresh-frozen RBCs, 37 units of platelets, and 36 units of albumin. He underwent six operative procedures, during which wounds involving 85% of his body were closed with homograft, cadaver allograft, and artificial skin. Throughout his hospitalization, he required mechanical ventilation and monitoring with central venous lines, arterial lines, and intermittent pulmo-

nary artery line. Despite these heroic measures, which stretched the resources of one of the country's most comprehensive medical institutions, he died on his 33rd hospital day. His injuries were likened by the person who supervised his care to those described for many of the victims of the atomic bomb that exploded over Hiroshima (J. F. Burke, M.D., written communication, July 28, 1980).

Recent talk by public figures about our winning or even surviving a nuclear war must reflect a widespread failure to appreciate a medical reality: any nuclear war would inevitably cause death, disease, and suffering of epidemic proportions and without effective medical interventions. That reality, in turn, leads to the same conclusion we have reached for such contemporary epidemics as lung cancer and heart disease: prevention is essential for effective control.

In contrast to widespread belief, much can be said about the catastrophe that would follow the use of nuclear weapons. Much can also be said about the limitations of existing methods of medical intervention. Perhaps so little is said about the catastrophe because it is horrible to contemplate. Surely, so little is said about intervention because so little that is hopeful can be said. If the medical community breaks the virtual silence on this issue, we might help interrupt the nuclear arms race. This, in turn, might help prevent what could otherwise be the last epidemic our civilization will know.

The devastation wrought by an atomic weapon on Hiroshima provides, along with the similar experience in Nagasaki, direct evidence of the consequences of nuclear warfare, but there are many theoretical appraisals on which we may also draw. For example, in response to a request from the Senate Committee on Foreign Relations, the Office of Technology Assessment (OTA) of the Congress of the United States, with the assistance of the Congressional Research Service, the Department of Defense, the Arms Control and Disarmament Agency, and the Central Intelligence Agency, last year prepared a study that described the effects nuclear attacks would have on Detroit and on Leningrad.¹ A 1-million-ton atomic weapon (the Hiroshima bomb approximated 10,000 tons of explosive power) exploded in central Detroit would result in 70 sq. mi. of property destruction, 250,000 fatalities, 500,000 injuries, and damage from widespread fires. A large fraction

of the injuries would result from burns and others from blast and from radiation.

Even under optimal conditions, care of the injured would present a medical task of unprecedented magnitude. Since hospitals, physicians, and nurses are concentrated close to the center of the city, the OTA projected that of the 18,000 beds in and around Detroit, no more than 5,000 would remain relatively undamaged. These would accommodate only 1% of the injured, and no one could deliver the services required by the burned victim previously described.

The hopelessness of the task that would confront the surviving physician is described by John Hersey in his book, *Hiroshima*:²

Dr. Sasaki worked without method, taking those who were nearest to him first, and he noticed soon that the corridor seemed to be getting more and more crowded. Mixed in with the abrasions and lacerations which most people in the hospital had suffered, he began to find dreadful burns. He realized then that casualties were pouring in from outdoors. There were so many that he began to pass up the lightly wounded; he decided that all he could hope to do was to stop people from bleeding to death. Before long, patients lay and crouched on the floors of the wards and the laboratories and all other rooms, and in the corridors, and on the stairs, and in the front hall, and under the porte cochere, and on the stone front steps, and in the driveway and courtyard, and for blocks each way in the streets outside. Wounded people supported maimed people; disfigured families leaned together. Many people were vomiting. A tremendous number of schoolgirls — some of those who had been taken from their classrooms to work outdoors clearing fire lanes — crept into the hospital. The people in the suffocating crowd inside the hospital wept and cried, for Dr. Sasaki to hear, "Sensei! Doctor!" and the less seriously wounded came and pulled at his sleeve and begged him to go to the aid of the worse wounded. Tugged here and there in his stocking feet, bewildered by the numbers, staggered by so much raw flesh, Dr. Sasaki lost all sense of profession and stopped working as a skilled surgeon and a sympathetic man, he became an automaton, mechanically wiping, daubing, winding, wiping, daubing, winding.

The surviving Detroit (and Leningrad) physicians would be faced with large numbers of patients with blast injuries, including lacerations of

soft tissues and fractures; thermal injuries, including surface burns, retinal burns, and respiratory tract damage; and radiation injuries, including acute radiation syndrome and delayed effects. Infectious disease would be rampant because of lowered resistance and widespread contamination. Severe psychological problems would be widespread.

An objective examination of the medical situation following a nuclear war leads to but one conclusion: prevention is our only recourse. The consequences of nuclear war are not, of course, only medical in nature. But they do compel us to pay heed to the inescapable lesson of contemporary medicine: where treatment of a given disease is ineffective or where costs are insupportable, attention must be given to prevention. Both conditions apply to the effects of nuclear war — treatment programs would be virtually useless and the costs would be staggering. Can any stronger argument be marshalled for a preventive strategy?

Prevention of any disease requires an effective prescription. We recognize that such a prescription must not only prevent nuclear war but also safeguard our security. Our knowledge and credentials as physicians do not, of course, permit us to discuss security issues with expertise. However, if our political and military leaders have based strategic planning on mistaken assumptions concerning the medical aspects of a nuclear war, we do have a responsibility. We must inform them and the American people of the full-blown clinical picture that would follow a nuclear attack and the impotence of the medical community to offer a meaningful response. If we remain silent, we risk betraying ourselves and our nation.

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THE MEDICINE OF NUCLEAR WARFARE

A Clinical Dead-end

MARTIN EASTWOOD*

War is a continuing challenge to medicine. The surgeon, physician, and public health doctor have learned from war and developed their professional abilities in a huge clinical experiment.

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The doctors who accompanied the Crusades, the Hundred Years' War, the Napoleonic Wars, and the World Wars of this century all returned to civilian life with experience which contributed to major progress in medicine. Throughout these wars it was assumed that the doctor was physically fit and, by his training, intellectually prepared to manage the sick and wounded. The Plague in mediaeval times was, however, an example of an event in which the doctors died and were helpless to do anything for their patients.

A similar prospect faces doctors in the event of a nuclear war. After the first experiment at Hiroshima only 3 of the 45 hospitals were left unscathed. There were 150 doctors, of whom 65 were killed outright and most of the remainder were wounded. Of the 1780 nurses, 1654 were dead or too badly wounded to work. This casualty rate suggests that receiving stations would be short of fit medical and nursing staff.

The most conspicuous deficiency is a lack of training and experience. Medical survivors would be exposed both personally and professionally to a series of deadly hazards. Few, if any, general textbooks have a section devoted to post-nuclear warfare medicine. Yet the whole of their texts are an adequate preparation for the medicine associated with traditional conflict.

NUCLEAR WEAPONS

Nuclear weapons generate energy on a massive scale, as blast and shock waves (45%), light and heat (35%), and initial nuclear radiation (5%). Residual radiation from fallout represents about 15% of the explosion. These approximate relative amounts of energy are modified to some extent by the height and terrain over which the bomb is dropped. Delivery of nuclear weapons at the end of a long trajectory is accurate to within a few hundred yards and is rapidly becoming even more accurate. It is likely that several 1 megaton bombs would be distributed over an attack area to give a similar effect to a larger bomb. This is in part strategy and in part the outcome of the fact that the destructive effects of a single bomb does not increase in direct proportion to the size of the bomb.

On detonation a nuclear weapon produces a luminous fireball with a temperature between 900° and 1300°C, capable of melting granite and clay. If detonation is on the ground, the soil

vaporizes and a partial vacuum is formed. Radioactivity adheres to a vast amount of debris which is dispersed over a distance determined by wind direction and force. The crater exposes many underground structures, the depth depending on the type of soil.

If the bombs are detonated in the air so that the fireball is clear of the surface, the blast damage is greatest, though few particles are drawn into the atmosphere. Thus radioactive fission products are distributed over a much larger area, but the local effects of fallout are less.

When a nuclear bomb is dropped over water, massive vaporization results, followed by an intensely radioactive rainfall. A tidal wave of 50-100 feet sweeps from the agitated center. Since many cities are on the coast, such a bore can swamp many otherwise safe shelters.

IMMEDIATE PHYSICAL EFFECTS

The initial effects are those of blast, heat, and radiation. Severe burns and blast injuries of a mortal type will be experienced up to 22 miles from the center of a 10-megaton explosion. The immediate effect is to destroy 80% of buildings and kill approximately a third of the population. At least another third will be maimed by the heat and blast injuries in the first moment or two after the explosion. The initially induced radiation, neutrons interacting with stable nuclei to yield radioactive nuclides, is intense but decays to insignificant amounts within a few days. Accounts of such an event describe areas of extremely high dosage of irradiation centrally with high but declining dosage areas more peripherally. If, for example, three 1-megaton bombs burst at ground level at 5 miles distance apart, then an area of 60 square miles would be exposed to 3000 rads/hour and an area of 270 square miles would be exposed to 1000 rads/hour. People in the open would obviously receive the full dosage, whereas people in an intact ground-floor shelter would receive one-tenth of the outside irradiation and in basements substantially less. Such protection is only of value for those who have survived the intense blast and heat.

The ground lying directly beneath and subsequently over the area of fallout will be highly radioactive. Most of this radioactivity will be gamma and beta radiation. The newly produced radioisotopes will each have a specific type of radi-

ation and half-life. These separate sources of radiation and emission rates integrate as one large field of radiation which decays in intensity according to the seven-tenths rule. Once most of the fallout has come down and no new radiation is added to the area, the intensity of residual radiation will decrease by a factor of 10 for every 7-fold increase in time.

IMMEDIATE TREATMENT OF SURVIVORS

Doctors surviving or entering this area of devastation would be presented with graded and evolving injuries. It has been estimated that in the first few days after an attack two-thirds of the exposed population would die from blast effects, burns or irradiation. The immediate care directed to survivors would have to provide for enormous numbers, and huge quantities of replacement fluids would be necessary. Intravenous therapy for burns might be impossible though basic oral glucose/saline solutions, developed for cholera victims, might prove more practical. Simple techniques, such as enclosing burnt areas, may minimize fluid evaporation. In war conditions, it has been suggested that the patient left in the cold may lose less fluid than those cared for in the warmth and covered with blankets.

RADIATION EFFECTS

The clinical effects of radiation vary with dosage, body site, and frequency of exposure. There are two major biological results of radiation in excess of 100 rad. Firstly, cell membrane damage leads to cellular and vascular leakage, affecting particularly the brain and lungs. Secondly, loss of reproductive capacity in stem cells, which would be most noticeable in intestinal mucosa, bone marrow, skin, and reproductive tissues.

The accompanying table shows the effect of irradiation of varying intensity from 100 to over 2000 rad. Most of the population of cities which receive nuclear bombardment could receive amounts varying between 1000 to 3000 rad/hour. The length of time before clinical effects appear varies with the dosage and the organ affected. At whole-body doses of gamma radiation over 200 rad everyone so exposed would be ill and incapacitated. The bone marrow may be destroyed by dosage of between 300 to 1000 rad, with death following in 10-30 days, agranulocytosis being at its maximum 10 days after irradiation. Thrombocytopenia takes a month to develop after one dosage, though this process may be accelerated by

repeated exposure. Red cells and their precursors are less radiosensitive and anaemia is less likely.

Damage to the gastrointestinal mucosa occurs at doses of 1000 rad and leads to severe damage and death within a week at doses of 2000 rad or more. The mucosal damage is followed by fluid and electrolyte loss.

Exposure to high doses of irradiation between 5000 and 10,000 rad results in gradual loss in mental and physical activity and disorientation leading to coma and death within a few days. After doses in excess of 10,000 rad, death takes place within a few hours.

Pneumonitis, the severity of which depends on age, dose, and duration of exposure, results from irradiation of the lungs from direct or inhaled radioactivity.

LONGER-TERM EFFECTS

After acute irradiation, fibrosis and cardiac decompensation may follow 2 years or more after exposure of the lungs and heart. After the explosion radionuclides (iodine, strontium, caesium) are disseminated in the environment. In addition to leukaemia, there is probably an increased rate of cancer in many organs, judging from experience in Hiroshima and Nagasaki. The number of such additional deaths was assessed by the Atomic Bomb Casualty Commission, but extrapolation from these results to any future series of nuclear explosions cannot be made with confidence because the type of nuclear weapons which might be used is uncertain.

GENETIC EFFECTS

Ionising radiation induces gene mutation and chromosome breaks more or less in proportion to dose. There is no evidence of a threshold below which there is no effect. Even 10 rad over a year might result in a 100-fold increase in mutation frequency. Most of the new mutations would be recessive in their effects and would not be manifest until they become homozygous generations later, following mating between carrier heterozygotes. There have, however, been no detected increases in genetic disease in the children of survivors of the Hiroshima and Nagasaki bombings, though such statistical reassurances may be illusory, owing to the initial delay in studying survivors of these bombs and to the likelihood that the extent of irradiation in a future nuclear war would be many 100-fold greater than it was at Hiroshima or Nagasaki.

HAZARDS TO PUBLIC HEALTH

The survivors would probably represent 5-10% of the original population in a city and they would face a world without its previous social, economic, political, and religious structure. The mountain of corpses, the leaking sewers, lack of clean water, and the exacerbation of normal health problems would overwhelm the numbed survivors and their inadequate treatment facilities. The initial panic and subsequent inertia would probably hamper orderly coping processes. It is likely, however, that outside the target areas, smaller towns and villages would be more or less unharmed and would receive, with varying welcome, refugees from the bombed areas.

CLINICAL EFFECTS OF ACUTE EXPOSURE TO IONISING RADIATION

Total dose (rad)	Body sytem	Onset of symptoms	Effects
100-150		75%	Few or no obvious symptoms
		25%	Nausea and vomiting, mild forms of below
200-350	Blood and bone marrow	Within 4 hr.	Nausea, vomiting, weakness
		After 2 days	Latent period
		2 wk	Loss of hair, fever
		3 wk	Purpura, ulceration of mouth and pharynx
			25% of deaths in 5 wk, recovery in 75%
350-600+	Gastrointestinal	2-4 hr	Nausea, vomiting, weakness
		2 days	Latent period
		1-2 wk	Profuse intractable diarrhoea with blood, purpura; 75% deaths 2-4 wk, recovery very slow
2000+	Brain	Immediate	Convulsions, coma, death

Food and water supplies would be hazardous. Most reservoirs are some distance from towns, remote from the areas of intense irradiation, though securing this water and also fresh and refrigerated food stores would not be easy when means of transport were few. Foods covered in wrapping and tin would be safe. Grain protected by husk would thus be edible after threshing.

PREVENTION

Modern preventive medicine reaps many benefits from diagnostic and therapeutic experience. Such knowledge would not be available in the event of a nuclear bombardment, which would not discriminate between joggers or smokers, clean water supplies and sewage, in its devastation. Preventive medicine would be swept aside in an instant. The medical profession must devote much time and effort to ensuring prevention before the threatened event.

This paper owes much to discussions and literature searches by Dr. Frank Boulton, Dr. Christine Dean, Dr. Nigel Hurst, Dr. Ken Jones, Dr. Christopher Ludlum, Dr. Ian McCarthy, Dr. Judith McDonald, Dr. Shirley Radcliffe, Dr. Maureen Roberts, Dr. Brian Venters, Dr. Helen Zealley, and Prof. J. R. S. Fincham.

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SOUNDING BOARD

The Nuclear Arms Race and the Physician

The possibility that nuclear weapons may cause an unprecedented catastrophe for humanity has not halted the nuclear-arms race. On the contrary, the insecurity resulting from these weapons is a factor in their multiplication. Nuclear devices of varying size, sophistication, and destructiveness now number in excess of 40,000.¹ Prof. George Kistiakowsky, a former head of the Explosives Division of the Manhattan Project and science advisor to President Eisenhower, recently stated that it would be a miracle if no nuclear warheads were exploded in anger before the end of this century, and only a slightly smaller miracle if that did not lead to a nuclear holocaust. In the light of such informed prediction, all of us need to reexamine our level of concern and involvement with this issue.

Thirty-five years have passed since physicians first confronted the problem of nuclear war. In Hiroshima, a primitive uranium bomb with an explosive power of 13 kilotons (13,000 tons of TNT) killed over 75,000 people and injured nearly 100,000 out of a population of 245,000. Ninety percent of the 76,000 buildings within the city limits were destroyed.² Fewer than 30 of Hiroshima's 150 physicians, all of whom were un-

aware of the cause of such a massive catastrophe, were available to attend the thousands of victims. Of 1780 nurses, only 126 were alive and able to assist the burned and traumatized casualties.³

In the first weeks after the explosion, bewildered health professionals encountered a new syndrome consisting of alopecia, diarrhea, diffuse hemorrhage, anorexia, nausea, vomiting, listlessness, and susceptibility to infection — their first indication of the results of extensive exposure to ionizing radiation. The health consequences continued to emerge long after the initial bombing. Some of the people living in proximity to the explosion experienced radiation effects years to decades later, including leukemia and cancers of the breast, lung, and thyroid.⁴

Many of the pioneering physicists who built the atomic bombs hoped that the experience of Hiroshima and Nagasaki would prevent the production and stockpiling of such devices of mass extermination. The ensuing decades witnessed instead an increased reliance on these weapons for national defense in both the United States and the Soviet Union. Each side acknowledged that protection of its own citizenry was based on the threat of annihilation of the opposing side. In a sense, 400 million people have been held hostage by their two governments. This horrifying policy of ensured mutual destruction has prevailed over the past two decades. The underlying perception of this balance of terror has been most aptly summed up by General Douglas MacArthur: "The very triumph of scientific annihilation has destroyed the possibility of war being a medium of practical settlement of international differences. . . . If you lose, you are annihilated. If you win, you stand only to lose. War contains the germs of double suicide."⁵

Now, however, the age of deterrence may be drawing to a close. The process of detente has been halted. An accelerated nuclear-arms buildup, a developing climate of crises, and qualitative changes in weapons technology are altering the forces that have secured an uneasy peace over the past two decades.

Physicians are committed to the maintenance of health and the promotion of human survival. With an increase in the likelihood of nuclear war, the medical profession must evaluate its role in preventing what has been designated "the last epidemic."⁶

DEVELOPMENTS INCREASING THE LIKELIHOOD OF NUCLEAR WAR

Technologic Advances

Military research itself has become a powerful motor of the arms race. Scientists are now devising weapons that are more suitable for provoking than deterring nuclear war. Recent advances in microminiaturization of electronic components have considerably improved the accuracy of ballistic missiles and constitute the technologic basis for the new "counterforce" strategy.⁷ This strategic doctrine leads to targeting of the opponent's land-based missile systems in their hardened silos. The ability to destroy a large fraction of an opponent's intercontinental ballistic missiles in a preemptive strike shifts the prevailing strategy from the mutual suicide pact, which constituted the basis for deterrence, to the expectation of fighting a nuclear war with the possibility of "winning." The adoption of this strategy diminishes the time available between the detection of a presumed attack and the retaliatory response (delay in firing one's missiles may court their loss). To avoid such destruction, each side may plan to launch its nuclear weapons early, even on warning of an attack. Since it requires about 30 minutes for a missile to traverse the distance between the Soviet Union and the United States, and even less time if the missiles are launched from submarines, little time is left for sorting out genuine alerts from spurious ones.⁸

The start of a nuclear war may then be linked to the reliability of early warning systems. These systems involve sophisticated computers and must cope with many potentially confusing signals. During an 18-month period, the North American Defense Command had 151 false alarms that were serious enough to require determination of their source.⁹ Four resulted in orders that increased the state of alert of B-52 bomber crews and intercontinental-ballistic-missile units. Malfunction of an inexpensive electronic component the size of a dime caused two of these alarms.⁸ A major false alert, lasting a full six minutes, resulted when a technician mistakenly mounted on an American military computer a training tape of a Soviet attack. Detection of increased nuclear readiness on one side inevitably leads to increased readiness on the other side. These preparations could in turn provide "verification" of nuclear-launch preparations by the opponent, thereby activating a feed-

back loop of responses leading inexorably to a nuclear exchange.

The Nuclear Stockpiles

The destructive force available in the nuclear weapons of the world has grown to over one million times that of the bomb exploded in Hiroshima. The existence of these massive stockpiles, supervised and serviced by tens of thousands of personnel, multiplies the chance of nuclear confrontation by accident, by human error, or by human aberration.¹⁰ A Defense Department document lists 27 so-called broken arrows — the military code phrase for serious nuclear accidents — such as the one that occurred in September 1980 in Damascus, Arkansas, where a Titan II missile exploded, killing one Air Force maintenance man and seriously injuring a number of others. The nuclear warhead did not explode but was apparently hurtled into a nearby forest.¹¹ It is likely that similar accidents occur in the Soviet Union.

Physicians can readily imagine a computer malfunction or human derangement upsetting the balance of a complex system. During an international crisis, an accidental release of a nuclear missile might lead the other side to launch a massive nuclear attack to avoid being pre-empted. Even if the fail-safe mechanisms of our own control system are adequate to prevent war by accident, our survival depends on the safety of such systems in the Soviet Union, whose computer technology is believed to lag behind ours.

Proliferation of Nuclear Weapons

At present, three nations (France, England, and China) in addition to the United States and the Soviet Union are known to possess nuclear weapons. India has exploded a nuclear device, and Israel and South Africa are suspected to have several nuclear weapons. A number of small nations already have nuclear technology and could develop nuclear weapons without major technical difficulty. It is estimated that 10 to 20 additional nations will obtain nuclear weapons during the 1990s.¹² The possession by many different nations of the capacity to initiate nuclear war multiplies the likelihood of its occurrence. It is not difficult to imagine fanatical leaders launching a nuclear strike when faced with a serious threat to their power. In an age of enmeshing alliances, once such an exchange has begun, its containment must be viewed as uncertain. The United States and the Soviet Union can exert little moral lead-

ership in preventing proliferation since they have so conspicuously failed to exercise restraint in weapons production.

THE MEDICAL CONSEQUENCES OF NUCLEAR WAR

The effects of nuclear attacks on the human population and the environment have been described in detail in freely available government publications.^{13,14} Nearly 20 years ago, the *Journal* published a series of articles outlining for the first time the probable medical and public-health consequences of a "limited" nuclear strike against a metropolitan area.¹⁵ They estimated that the blast, fire storms, and acute ionizing radiation from detonation of only two nuclear weapons would kill 1,052,000 people out of a Greater Boston population of 3 million. Of those surviving the immediate explosion, approximately 1 million would die from the injuries that they received. Of Boston's 6560 physicians (1950 census figures), 4850 would be killed, 1070 would be injured, and only 640 would remain uninjured, yielding a ratio of approximately 1700 acutely injured persons to each functioning physician. If each physician spent only 10 minutes on the diagnosis and treatment of each victim and worked for 20 hours a day, it would take 14 days for every injured person to be seen the first time.

The above assessments of casualties are conservative, for they do not explore unpredictable longer-range effects.¹⁶ They exclude natural consequences that are possible and devastating but uncertain: long-term climactic changes, degradation of the stratospheric ozone layer, radioisotope contamination of food chains, and crop failures resulting from alterations in insect ecology. They do not consider the possibility of blast-induced rupture of radioactive-waste storage containers and the release into the environment of plutonium and other toxic radioactive isotopes with half-lives measured in thousands of years.

Since this assessment of the results of nuclear war in 1962, the scale of nuclear weaponry has changed radically. In a major exchange between the United States and the Soviet Union, 100 million acute fatalities might be anticipated in each country.¹⁴

WHY PHYSICIAN INVOLVEMENT?

It may be argued that nuclear war is an issue in the political and social domain and that physicians need confront it only as concerned citizens.

But on closer examination it is apparent that the danger of nuclear war in undermining health, fomenting disease, and causing the death of untold millions is an unprecedented threat to humanity. Other threats to the public health have generally led to prompt responses from the medical profession. Legionnaires' disease and a potential influenza epidemic have produced wide-ranging dialogue among physicians, extensive coverage in scientific journals, and a concerted effort to contain the problem, but these health issues diminish in comparison with the consequences of nuclear war.

Physician involvement is also compelled by the diversion of scarce resources from health care and other human needs. World military spending in real terms, corrected for inflation, has increased fourfold since World War II.¹ In 1980 these expenditures amounted to over \$500 billion, or \$1.4 billion daily. By comparison, the cost of totally eradicating smallpox was less than that of six hours of the arms race. Less than a day's military expenditures could finance the entire malaria-control program of the World Health Organization. A recent editorial in the *Lancet* maintained that "The medical profession must never neglect its responsibility to protest at the grim paradox between the world's enormous and mounting military expenditure and the comparatively meager efforts devoted to the relief of poverty, malnutrition, and disease."¹⁷

WHY PHYSICIANS CAN CONTRIBUTE TO LESSENING THE RISK OF NUCLEAR WAR

At the very inception of the nuclear age, Albert Einstein stated that "The unleashed power of the atom has changed everything except our ways of thinking. Thus we are drifting toward a catastrophe beyond comparison. We shall require a substantially new manner of thinking if mankind is to survive."¹⁸ The realities of the nuclear age require that this message become a part of world public opinion. Achieving such a change in thinking is the key to survival in the nuclear age.

Physicians bring excellent credentials to the task of public education on this topic. They are widely respected as teachers and are accustomed to interpreting complex scientific findings for their patients and for the public at large. They are trained to devise practical solutions to seemingly insoluble problems. Their educational role

in society on all issues pertinent to health and life is widely recognized. Thus they make up a natural constituency — a potentially forceful, non-political pressure group — for rational control of these destructive weapons. Physicians are experienced in dealing with the psychological process of denial — an important element in the apparent public indifference to the urgency of this task. Although denial reduces the level of anxiety and enables the human being to function, the cost exacted is the refusal to deal substantively with the threats being denied. The physician, in opposing the nuclear-arms race, cannot be suspected of any interest other than that deriving from deep commitment to the service of mankind.

Physicians share traditions, language, and practices that transcend national boundaries. This common ground enables them to initiate dialogues with foreign colleagues and to join together to make their collective voices heard and possibly even heeded. Together with other interested and informed groups, physicians can spearhead a worldwide movement away from the disaster toward which the world appears to be moving. The physician must participate in what may be the last moral conflict testing "whether the intelligence of man when turned to social responsibility can prevail over his intelligence when obsessed with techniques of destruction," as the editor of the *Journal* phrased it 20 years ago.¹⁹ Could any therapeutic advance or scientific discovery provide more meaningful service to those whose health we have vowed to protect?

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ELECTROCARDIOGRAM



OF THE MONTH

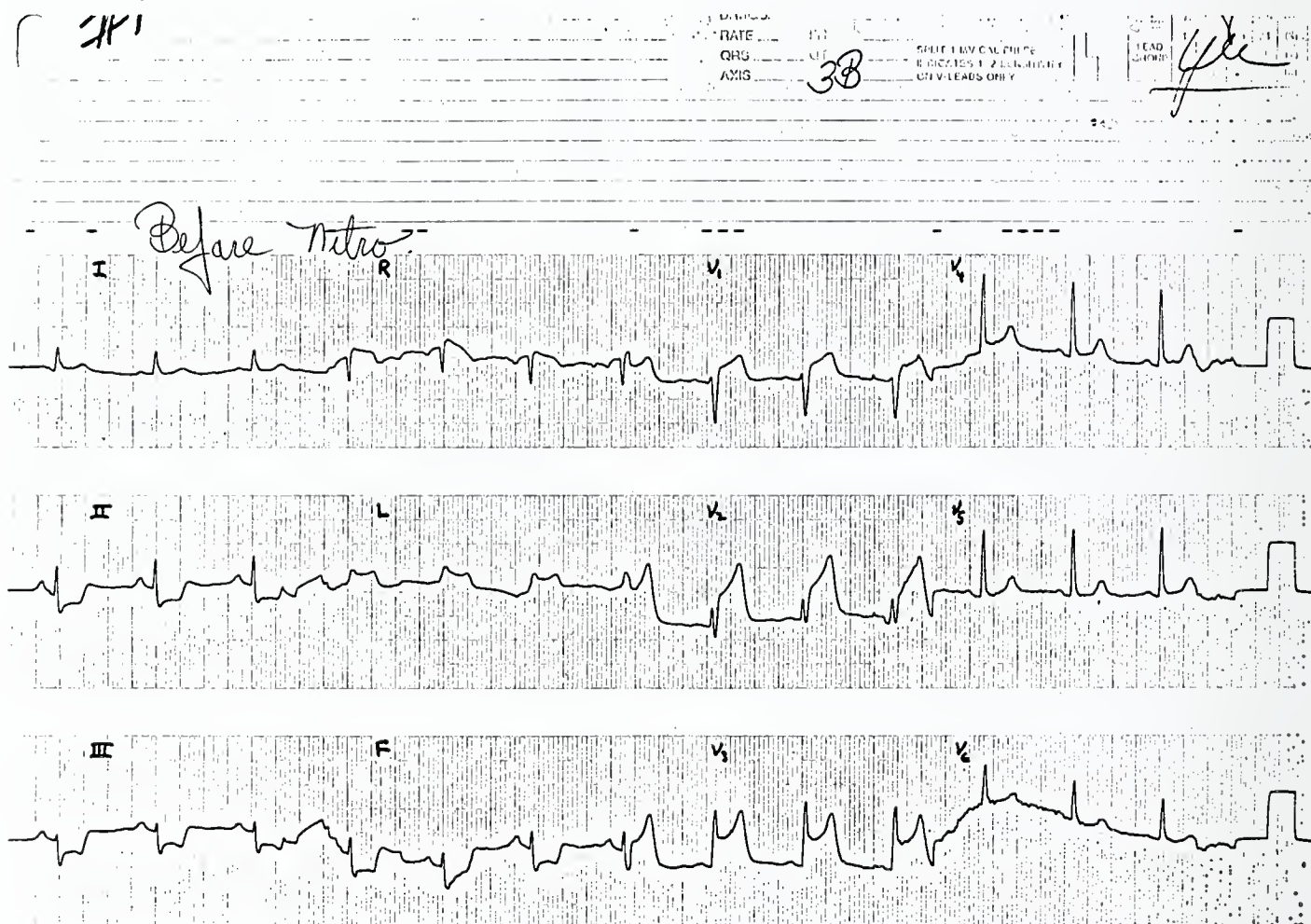
The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 294)

HISTORY: B. H. is a 46-year-old trucker who gives a five year history of exertional angina and a three week history of rest angina. Both types of pain respond favorably to nitroglycerine. He was thought to have unstable angina, was hospitalized, and therapy was initiated with propranolol. His rest angina increased in frequency. This ECG was obtained during rest pain prior to the administering of nitroglycerine. Ten minutes later, a repeat trace was normal.

Which of the following remarks are true?

1. The patient has sustained myocardial infarction.
2. Variant angina (Prinzmetal's angina) is present.
3. There is a good possibility that severe proximal coronary atherosclerosis is present.
4. His propranolol should be increased.



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MEDICAL GRAND ROUNDS:

Senile Dementia

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INTRODUCTION

We will present the case histories of two demented patients recently seen by the Geriatric Service of the Little Rock VA Medical Center. We will then describe the incidence, clinical importance, and causes of dementia in the elderly. We will conclude by discussing the recognition and treatment of reversible causes of dementia and the provision of a protected environment for irreversible cases.

CASE PRESENTATIONS

Case No. 1 (Mr. W. W.) is an 89-year-old Caucasian veteran. He was admitted to the Little Rock VA Medical Center on February 12, 1981, for a urinary tract infection, dehydration, severe organic brain syndrome and severe malnutrition. Gradual loss of intellectual functions started approximately eight years ago and worsened with several acute illnesses, including kidney stones, transurethral resection of the prostate for obstructive uropathy with urinary tract infection, CVA, and hip fracture. Currently, the patient is severely demented. He refused to eat or drink fluids. He requires total nursing care and feeding via a Dobhoff feeding tube. The dementia in this patient is probably due to a combination of Alzheimer's disease and cerebral infarction.

Case No. 2 (Mr. M. R.) is a 65-year-old Caucasian veteran who was admitted to Urology Service at the Little Rock VA Medical Center on February 5, 1981, for evaluation of possible urinary retention. He was subsequently transferred to the Neurology Service for Parkinsonism, and treated with Sinemet and Amantadine. The patient was noted to have severe dementia, possibly Alzheimer's type. A computerized tomographic scan showed marked cerebral atrophy. During this time, a "drug holiday" was undertaken for better control of the Parkinson's disease which led to marked improvement in the patient's intellectual function. At the time of discharge on April 22, 1981, he was alert and oriented with no evidence

of either dementia or Parkinsonism. This case illustrates dementia due to drugs. Antiparkinson's drugs are particularly prone to cause this problem. This case also shows that cerebral atrophy may *not* indicate irreversible dementia.

CLINICAL IMPORTANCE OF DEMENTIA IN THE ELDERLY AND DESCRIPTION OF IRREVERSIBLE CAUSES

Definition and clinical importance of dementia. Dementia can be defined as loss of intellectual ability of sufficient severity to interfere with social or occupational functioning.¹ The deficit often involves memory, judgement, abstract thought and other higher cortical functions. Changes in personality and behavior may also occur. Lability and shallowness of affect is common. Dementia is an extremely common problem in the elderly.² Approximately 10-15% of persons older than 65 years have intellectual impairment and in 5% it is severe. Based on the estimated number of individuals over age 65, approximately one million elderly have moderate to severe intellectual impairment.³ Since the number of elderly individuals in the population is increasing with time, dementia is becoming a progressively greater social and economic problem. Dementia is frequently associated with premature death. Severely demented individuals have a life expectancy about one-half that of age-matched controls with no mental impairment.^{4,5}

Spectrum of Delirium and Dementia. Delirium is an acute disturbance of mentation often associated with fluctuating levels of consciousness which is due to effects of illnesses outside the central nervous system.⁶ On the other hand, dementia is a more chronic disturbance of mentation that is usually associated with demonstratable brain pathology.⁶ Although this discussion deals primarily with dementia, it is important to recognize that drugs or concurrent medical illnesses often cause changes of delirium to be superimposed on preexisting dementia with worsening of intellectual performance.

Relationship of dementia to normal aging. Longitudinal studies have shown that most elder-

*From the Geriatric Service of the Little Rock Veterans Administration Medical Center and The University of Arkansas for Medical Sciences, Little Rock, Arkansas. This paper is derived from the Medical Grand Rounds presented at The University of Arkansas for Medical Sciences, May 21, 1981.

ly persons in good health have only a modest decline in intellectual function.¹ Therefore, normal aging does not include gross intellectual impairment, confusion or disorientation. When these symptoms appear, they are due to disease and indicate the need for accurate diagnosis so that reversible causes can be recognized and treated.

Etiology of dementia in the elderly. Table I shows the etiology of dementia in a series of 140 patients 65 years of age or older determined at autopsy.⁷ The most common etiology was senile dementia of the Alzheimer's type which accounted for 48% of the cases. Infarction of the brain parenchyma caused 20%. A combination of Alzheimer's type dementia and cerebral vascular disease caused an additional 12%. Therefore, 80% of cases resulted from Alzheimer's disease, cerebral vascular disease, or a combination of both. A heterogeneous group of potentially reversible disorders including subdural hematoma, brain tumors, and normal pressure hydrocephalus accounted for 12%. There was no pathologic finding sufficient to explain the dementia in 8%. The last two categories suggest that up to 20% of dementia cases may have a reversible etiology. The recognition of reversible causes of dementia will be discussed in a subsequent section. Less common irreversible causes of dementia in the elderly include advanced Parkinson's disease, Creutzfeld-Jakob disease, Pick's disease, and Huntington's chorea.

Alzheimer's Type Dementia. It is a global, progressive, fatal encephalopathy that often runs its course in 3-5 years. Early loss of memory and learning ability progresses to loss of speech, language and mathematical skills.⁸ Eventually, there is profound loss of all higher mental function and continuous nursing care is often required. Gross pathologic findings are cortical atrophy and ventricular dilatation.⁹ The classic histopathology

consists of senile plaques, neurofibrillary tangles, and granulovacuolar degeneration.⁹ The etiology of Alzheimer's disease is unknown. Although an unequivocal diagnosis of Alzheimer's disease requires microscopic examination of brain tissue, a presumptive diagnosis can be made if there is a compatible clinical picture with no evidence of stroke, space occupying lesion, or other clinical discernible causes.

Dementia due to cerebral vascular disease. Loss of 50 ml. of brain tissue or more usually causes intellectual impairment and focal signs.¹⁰ Generalized cerebral arteriosclerosis in the absence of a clear-cut infarction is not accepted as a cause of dementia.¹⁰

Comparison of dementia due to Alzheimer's disease and cerebral vascular diseases. Since Alzheimer's disease and cerebral infarction are the most common causes of dementia in the elderly, it is useful to compare the typical clinical course in each disorder.¹¹ The onset of dementia associated with Alzheimer's disease is usually gradual while that associated with cerebral vascular disease typically has an abrupt onset. Dementia associated with Alzheimer's disease shows a steady deterioration in contrast to the stepwise progression often seen in vascular dementia. Focal neurological signs and symptoms are generally absent in Alzheimer's disease but are characteristically present in vascular dementia.

Dementia due to unconventional virus infection. Creutzfeld-Jakob disease has an importance far out of proportion to its frequency of approximately one case per million population.¹² It is the first central nervous system disease with a degenerative type histopathology that was found to be an infectious agent.¹³ This fatal disease occurs in an age range of 30-70 years and has a rapid course with dementia, ataxia, cortical visual loss and loss of speech.¹² Within 12 months, most patients become paralyzed in decerebrate posture with myoclonic jerks. The pathologic process is a progressive vacuolation of neurons and neural connective tissue elements called spongiform degeneration.

Dr. Carlton Gajdusek of the NIH won a Nobel Prize in 1976 for discovering the etiology of this disease. He took brain homogenates from Creutzfeld-Jakob victims and inoculated them intracranially or parenterally into several species of monkeys. After a long incubation period of 1-4

TABLE I. ETIOLOGY OF DEMENTIA IN THE ELDERLY

Senile dementia, Alzheimer's type	48%
Multi-Infarct dementia	20%
Combination of Alzheimer's type and cerebral vascular disease	12%
Assorted potentially reversible causes	12%
Uncertain	8%

This Table is based on autopsy findings in 140 cases of dementia in individuals over 65 years of age.⁷

years, the monkeys developed clinical symptoms similar to the human disease and an identical pathologic picture. Brain tissue from 130 cases of Creutzfeld-Jakob disease was inoculated into monkeys with transmission in 115 cases.¹³ The agent responsible for this disease is filterable and appears to replicate in the brain tissue of infected animals like a virus. However, it has many features that are not typical of the usual virus. It is unusually resistant to heat, formaldehyde, and nucleases. It has a very long incubation period, there is no recognizable inflammatory or immunologic response by the host, and no infectious nucleic acid particles have been demonstrated.

There is considerable interest concerning the mechanism by which Creutzfeld-Jakob disease is propagated in man. There is no evidence of human to human transmission except in very unusual circumstances. The disease has developed in the recipient of a corneal transplant from a victim.¹² In two additional cases, the disease was transmitted by the use of intracerebral EEG electrodes sterilized in formaldehyde vapor.¹² It appears unlikely that this rare disease is maintained simply by infection from one overt case to another. It is possible that the responsible agent is widespread but affects only rare individuals who are unusually susceptible.

Since Alzheimer's disease is also a degenerative process similar in some respects to Creutzfeld-Jakob disease, attempts have been made to transmit Alzheimer's disease to monkeys by inoculation of brain homogenates. These attempts have not been successful.¹⁴

REVERSIBLE CAUSES OF DEMENTIA IN THE ELDERLY

As mentioned above, reversible causes of dementia in the elderly may account for up to 20% of all dementia. The most common causes of reversible dementia are: drug intoxication, depression, metabolic disorders, and infectious disorders.¹

Drug Intoxication. During the years 1979-1980, people over 65 years of age accounted for 11% of the population yet they consumed 25% of all the prescription drugs and suffered about 50% of all adverse side effects of drugs. Elderly subjects are prone to drug intoxication because of decreased liver and kidney function and decreased lean muscle mass. In this age group, patients tend to take multiple drugs thereby increasing the

possibility of drug interaction and incompatibility. The drugs most likely to cause problems are sedatives, tranquilizers, antiparkinson agents, anticholinergic agents, and psychotropic agents.¹ Digitalis, analgesics, oral hypoglycemics, diuretics, Cimetidine, and antihypertensive agents are also offenders.¹

Depression. Approximately 10 to 15% of individuals over 65 years of age suffer a significant degree of depression. Depression in elderly subjects may cause apparent disorientation and impairment in intellectual function very similar to that of Alzheimer's disease.¹⁵ This is termed pseudodementia. Successful treatment of the depression restores normal intellectual function.¹⁵ It has been estimated that 2-10% of dementia in the elderly may be due to depression. The following points may help differentiate pseudodementia from dementia due to organic disease.¹⁵

1. History of previous psychiatric dysfunction is common in pseudodementia and not in organic dementia.
2. The pseudodementia patient complains much of cognitive loss and disability whereas the patient with organic dementia is often unaware of his deficit and minimizes his difficulties.
3. Depressed patients do not try to keep up. Demented patients try hard to keep up with the aid of notes, calendars, etc.
4. Nocturnal accentuation of dysfunction is uncommon in pseudodementia and common in organic dementia.
5. Pseudodementia patients often communicate a strong sense of distress whereas patients with organic dementia do not.
6. Pseudodementia patients often manifest the usual features of depression such as loss of appetite, early awakening, withdrawal, depressed mood, and multiple somatic complaints.

The differentiation between pseudodementia due to depression and Alzheimer's dementia may require extensive neuropsychiatric testing. Therefore, when one cannot exclude the possibility of pseudodementia, a trial of antidepressant agents is warranted.¹

Metabolic Disorders. A number of metabolic disorders may cause delirium and would be expected to do so more readily in the elderly patient who already has decreased mentation. These

disorders include hyponatremia, hypernatremia, hypoglycemia, hypercalcemia, renal failure, and hepatic failure.¹ Hypothyroidism, hyperthyroidism and Cushing's syndrome may cause dementia or delirium.¹ Hypothyroidism is very difficult to diagnose in the elderly. The usual symptoms of cold intolerance, lethargy, and constipation are sufficiently common in the normal elderly population to be of little diagnostic utility. For this reason, routine screening of thyroid function in the elderly is probably justified.¹⁶

Infections. Viral and bacterial infections frequently cause an acute decompensation of intellectual function in the elderly. Often this is a delirium state superimposed on a preexisting dementia. Pneumonia and urinary tract infections are particularly frequent offenders.

Normal Pressure Hydrocephalus. Progressive dementia may accompany a communicating hydrocephalus in which CSF pressure is normal to near normal.¹⁷ In addition to the slowly progressive dementia, gait disturbance and urinary incontinence are frequently observed.¹⁷ This condition may develop without antecedent or follow subarachnoid hemorrhage, trauma, chronic meningitis, or brain tumor. Computerized axial tomography (CAT Scan) shows dilatation of the ventricles with normal CSF pressure on lumbar puncture. Shunt procedures may reverse the dementia or prevent its progression.¹⁸

Brain Tumor. Brain tumors in many locations have been associated with dementia and memory loss.¹⁷ Dementia of recent onset should alert the physician to consider the possibility of primary or secondary cerebral neoplasia.

Subdural Hematoma. A gradual accumulation of blood in the subdural space can cause progressive dementia.¹⁷ This diagnosis should be considered in dementia of recent onset, particularly if there is a history of head trauma and headaches.

Other Causes. Alcoholism, Vitamin B₁₂, and folate deficiency, neurosyphilis, cryptococcal meningitis, acute myocardial infarction, and congestive heart failure may cause impairment in intellectual function that is partially or totally reversible.¹⁷ The acute reduction in mental function associated with an acute cerebrovascular accident often improves as the patient recovers. Sensory deprivation caused by deficient hearing and vision contribute to intellectual deterioration.

WORK UP OF ELDERLY PATIENTS WITH IMPAIRED INTELLECTUAL FUNCTION

Goals. The probable cause of the intellectual deterioration should be determined and eliminated if possible. If this is not possible, any significant concurrent illness or drug that may be aggravating the problem must be removed.

Work Up. A detailed history should be obtained from the patient and relatives or caretaker including an inventory of all drugs taken. The physical exam should include a neurological evaluation, mental state examination, and estimate of the patient's auditory and visual capacities. If depression is suspected, a psychiatric consultation should be obtained.

Laboratory evaluation in most cases. Unless the diagnosis is obvious from the history and physical exam, the following studies are recommended:¹⁹ CBC, urinalysis, electrolytes, fasting blood sugar, calcium, phosphorus, BUN, liver function tests, serum T₄, serum B₁₂, and folate levels, VDRL, and chest x-ray.

Laboratory evaluation in selected cases. If signs of a potentially reversible central nervous system disorder are present, an EEG, CAT scan, lumbar puncture, and neurological consultation are frequently indicated. These signs include rapid development of dementia over weeks to months, seizures, focal neurological signs that do not appear to be the result of a CVA, prominent headache, history of significant head trauma, incontinence early in the course, and ataxia.²⁰ These additional studies will evaluate the possibility of normal pressure hydrocephalus, brain tumor, subdural hematoma, and chronic meningitis.

MANAGEMENT

Reversible Dementia. Offending drugs should be discontinued, antidepressants used in pseudodementia, shunts considered in normal pressure hydrocephalus, and appropriate therapy carried out for metabolic disorders, infections, brain tumors, and subdural hematomas. Deficits in visual and auditory capacities should be addressed.

Irreversible Dementia. The patient should be maintained in optimum condition by treating concurrent medical problems and eliminating unnecessary drugs. A protective environment should be provided.¹⁹

1. Standardize routine of mealtime and other activities to decrease confusion.

2. Use written notes of obligations, appointments, etc., to compensate for failing memory.
3. Keep lights on at night to minimize disorientation.
4. Keep patient in familiar surroundings if possible.
5. Keep patient physically active.
6. Try to maintain morale of major caretaker. This will often determine how long the patient can be kept in the home.

SUMMARY

Dementia can be defined as the loss of intellectual abilities of sufficient severity to interfere with social or occupational function. The magnitude of this problem is illustrated by the fact that 10-15% of persons over 65 years of age have significant intellectual impairment and 4-5% have severe loss. Gross intellectual impairment, confusion and disorientation should not be considered a normal consequence of aging. A careful attempt to identify reversible causes should be made. In about 20% of cases, a reversible cause can be found. Alzheimer's type dementia and cerebral infarction are the most common irreversible causes of dementia in the elderly and account for about 80% of all cases. The most common reversible causes of dementia in the elderly are therapeutic drug intoxication, depression, and metabolic or infectious disorders.

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EDITORIAL

Some Immunologic Vistas

Alfred Kahn, Jr., M.D.

Major scientific advancements are often made—and are unheralded for many years. With the widespread dissemination of news by television, radio, and newspapers, there has developed a keen thirst for matters of scientific interest by the editors of the media—to present to the reading and listening public. Most of the information which is presented is technically correct, but the degree of scientific importance is often misjudged, despite great care and preparation of the information. Recently there was a major television program on what may be one of the major advances in immunology; it was on monoclonal antibodies. This topic has been the subject of an excellent review by Diamond, Yelton, and Scharff (*New England Journal of Medicine*, Volume 304, page 1344, May 28, 1981). In the introduction to their article, Diamond, et al, allude to the fact that when performing immunologic studies there is often a minor contaminant which results in the contamination of the major antibody with fairly large amounts of a minor contaminating antibody; as they further point out, subclasses of antigens and subspecificities in the antigen antibody reactions often mar the results of investigations. On a more practical level, it is impossible at times to do tissue cross matching. A possible solution to this has been the development of monoclonal antibodies. Diamond, et al, credit Kohler and Milstein for showing that cultured mouse myeloma cells could be fused to normal spleen cells from immunized with sheep red cells. From this fusion of a single cell of each type, the hybrid offspring was able to generate a homogeneous antibody. The hybrid cell lines can be cultured, frozen, and re-injected into laboratory animals; the laboratory animals, in turn, could produce large amounts of antibody. As a consequence of these studies, it was found that

monoclonal antibodies could be produced in large amounts. The beauty of the techniques which have been developed is that the single antibody resulting from this hybridization will react only with the major antigen and will not react with contaminants. The general technique for hybridoma is described by the authors and one important fact stands out — namely, it is difficult to get some monoclonal antibodies; for example, they state that only one hybrid is usually generated from 2×10^5 spleen cells and a good immunogen is said to stimulate about 16^6 antibody-forming cells per spleen; this results in only five hybridomas per spleen — however, enrichment techniques may increase the antibody from hybrids up to sixfold. They state that it may be necessary to fuse three to five spleens and to screen 1500-2500 hybrids before finding the desired antibody. It is rather interesting that not all animal spleens are suitable for this hybrid technique — mouse and rat spleens work, but rabbit cells do not apparently work. Another area of difficulty in using this new technique is that some immunogens are very weak and this interferes obviously with a good production of monoclonal antibodies; this is sometimes obviated by the use of polyethylene glycol which increases the fusion frequency considerably. Diamond and her co-authors state that the screening technique for hybrids produced in the manner described above is very time consuming; these hybrids have to be screened because it is impossible to keep all the cell lines growing — many of which are undesired. They further state that some of the hybridomas are unstable. About 50-70% of the hybridomas are said to make large amounts of antibody. A very interesting commentary made in the article is that since the homogeneous antibodies attach at one a single antigenic site with

the immunogen, they are not able to produce a precipitation, and thus they cannot be used in precipitation assays. Since monoclonal antibodies react at only one antigenic site, they will react to that site on the immunizing molecule but they will also react to molecules having a related site. Diamond, et al, feel that the hybridoma technique will prove very valuable in the study of viral diseases; for example, they can detect a gradual change in the antigenic pattern of some viruses such as occurs with influenza virus under certain circumstances. The monoclonal antibodies have been used to try and determine whether a questionable cell or cell group is malignant or normal; this technique has been used with malignant melanoma cells with success. The authors cite one case of human acute lymphocytic leukemia cells which were used to immunize mice. Two strains reacted with the malignant cells and barely reacted with normal bone marrow cells; but an odd fact was discovered — the antibody also reacted with normal thymus cells; this indicated presence of antigen that appeared early in the differentiation of thymus cells and was also in the malignant cells. It is also reported in this article that hybridoma techniques have been developed which secrete immunoregulatory molecules. The many new areas that this technique opens up are countless and this technique will undoubtedly be of major scientific importance in immunologic studies.

Another interesting article on immunology was a combined clinical and basic science seminar from the New York Hospital — Cornell Medical Center — entitled "Immunologic and Clinical Aspects of Immune Complex Disease" which was presented by R. D. Inman and N. K. Day. The seminar was introduced by Inman who generally commented about some of the molecular aspects of immune complexes. Among the things which he commented on was the fact that large immune complexes are cleared more rapidly than smaller ones because large immune complexes fix complement more efficiently; he discussed valence, meaning the number of combining sites on an antigen or antibody; the more combining sites, the more of a lattice-work formation that can be formed by cross linking. Poorly antigenic substances have slowed immune reactions as compared to strongly antigenic substances. In continuing the same discussion of immune complexes, Inman commented that some immune

events are physiological whereas others are obviously pathologic. A number of things may determine the nature of the immune reaction such as a single encounter with an antigen versus multiple exposures, the genetic background of the host, the site of the immune complex formation — circulating versus fixed, the clearance of the immune complex by the reticulo endothelial system, and the deposition in tissues. In the course of his discussion, Inman used systemic lupus erythematosus as an example of one type of immune complex disease and documents the changes which occur in the immune reactions of patients with systemic lupus erythematosus; these include deposits of immunoglobulins and complement in the glomeruli and hypocomplementemia. In systemic lupus erythematosus a search was made for other abnormal reactions and some have been found; these include precipitating antibodies to DNA in the serum, DNA and DNA antibodies in glomeruli, etc. Inman cautions against clinicians using the interpretation of a single immune complex level as a basis for diagnosing and treating systemic lupus erythematosus. Inman also discussed immune complexes and rheumatoid arthritis. He states that in one study 92% of the patients with rheumatoid arthritis had immunoglobulin complexes in articular collagenous tissues. Inman also stated that complement was used rapidly in some rheumatoid joints suggesting the presence of immune complexes. Rheumatoid arthritis is characterized by the presence of circulating immune complexes including the so-called rheumatoid factor. These substances can activate the complement cascade. Inman does not make a positive statement that the presence of immune complexes in rheumatoid disease is the source of the disease, but he does feel that there is evidence that the immune complexes play a significant role in joint inflammation and destruction. The exact immune factor which produces a rheumatoid disease has not been clearly demonstrated as yet; there may be more than one immune reaction responsible for rheumatoid disease.

N. K. Day discussed the immunologic responses in malignancy. He reported that his laboratory first became interested in this in a case of a patient with chronic lymphocytic leukemia who had a very low hemolytic complement level. This suggested an antigen antibody reaction. Later in a survey of his patients, he discovered that

50% of the individuals with malignancy had a high level of circulating immune complexes. He and his collaborators found "a close correlation was obtained between the circulating immune complex concentration and the stage of disease" — in neuroblastoma. In the case of human lung cancer, Day reports that "there was a good correlation between the tumor size and the circulating immune complex; "if the tumor was excised, the amount of immune complex circulating in the serum fell.

Day also reported on human breast cancer and

benign breast disease; it was of interest that circulating immune complexes were high in benign breast disease over controls — about twice as much circulating immune complex was found in the presence of benign breast disease. In the presence of cancer of the breast, Day reports that immune complex may be five times higher than normal.

These interesting vistas into relatively new areas of immunology are only an overlook of a few of the many potential benefits to which this research work may lead.



"From Other Years"

(From UAMS Library, History of Medicine/
Archives Division.)

The Journal of the Arkansas Medical Society
3(5):190 October 15, 1906

Personal Mention

Members of the family of Dr. G. H. Andrews, of Hope, have been suffering from ptomaine poisoning, resulting from eating oatmeal. Mrs. Andrews, Miss Bettie Andrews and Andrew Andrews were those afflicted, but are now much improved.

Dr. Ches Jennings has returned from Atlanta, Ga., where he took his son to the Georgia State University. Dr. Jennings reports that he saw a great deal of the race riots, and gives quite a graphic description of the fights he saw there.

Dr. W. F. Baskerville, of Booneville, departed for a month or six weeks' trip through Alabama and Georgia. He left his railroad practice in charge of Dr. McConnell and will resume the general practice on his return to Booneville.

Misses Barbara and Theresa Allen, of South McAlester, I. T., are visiting Little Rock as the guests of Dr. and Mrs. J. P. Runyan. These young ladies are the daughters of Dr. and Mrs. E. N. Allen, of South McAlester.

Dr. W. B. Hughes, of Little Rock, who has been at Atlantic City attending the National Institute of Homeopathy, has returned after a three weeks' absence and resumed his practice.

Dr. E. N. Allen, of South McAlester, I. T., visited Dr. Runyan during the first few days of

this month. Dr. Allen is division surgeon of the Rock Island system at that place.

Dr. W. E. Green, president of the National Institute of Homeopathy, has just returned from Atlantic City, where he presided at the sessions of the recent meeting.

Mrs. C. T. Drennen, wife of our president, Dr. C. Travis Drennen, of Hot Springs, is spending a few days visiting Mrs. C. R. Shinault.

Dr. A. G. Harrison, who has succeeded Dr. J. M. Young as physician of the Deaf Mute and Blind Schools, has removed from Warren to Little Rock.

Dr. C. Travis Drennen, of Hot Springs, was among our recent callers. While in the city he was the guest of Dr. and Mrs. C. R. Shinault.

Dr. W. E. Hoffman, of Stuttgart, has been seriously ill at St. Vincent's Infirmary, with typhoid fever, for the past two months.

Henry K. Wampall, the wealthy manufacturing chemist of Philadelphia, was recently drowned in North River.

Dr. Keating Bauduy has removed his office from Second and Louisiana to the Majestic Theater building.

Dr. and Mrs. C. R. Shinault have returned from Chicago and Rochester, Minn., where they spent the summer.

Dr. J. H. Lenow and family have returned from Pine Lake, Wis., where they spent the summer.

Dr. A. E. Cone, of Portland, greeted his Little

Rock friends with a cheery smile since our last issue.

Dr. W. S. Robinson, of Nashville, Ark., paid his Little Rock friends a call a few days ago.

Dr. Vernon MacCammon, of Arkansas City, called on the Secretary early this month.

Dr. C. P. Meriwether, formerly of Walnut Ridge, has become a resident of Little Rock.

Dr. D. C. Walt and wife, of Altheimer, paid Little Rock a visit since our last issue.

Dr. M. G. Thompson, of Hot Springs, paid the secretary's office a call recently.

Dr. and Mrs. Richard Chenault, of England, visited Little Rock on October 1.

Dr. and Mrs. Leonard R. Ellis were pleasant visitors on the 1st of October.

Dr. W. H. Abington, of Argenta, was called to Beebe for consultation.

Dr. B. D. Luck, of Pine Bluff, came to see us about October 1st.

Dr. and Mrs. T. R. Bobbitt, of Beebe, visited Little Rock Tuesday.

Dr. R. H. T. Mann, of Texarkana, has returned from Europe.

Dr. J. H. Kennerly of Batesville is visiting Hot Springs.

Dr. W. H. Snodgrass has returned from Chicago.



MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

The late summer doldrums of the nation's capital were snapped with the return of Congress and top federal officials, including President Reagan, from summer vacations.

But the decision by the Administration to seek additional reductions in federal spending has tossed aside a hoped-for Congressional adjournment date of mid-October with mid-November being substituted. And this date is thought by many to be overly optimistic.

Despite its earlier history-making budget reduction of some \$30 billion, the Administration is now faced with an estimated \$60 billion deficit in this fiscal year (Oct. 1, 1981) with even higher red ink margins forecast in the next two years.

In its drive to get the deficit down to \$42.5 billion, the pre-August guess, some \$18 billion of new cuts must be legislated. Health programs aren't a major target area, but few will escape the economy ax.

The President's urgent request for a second round of budget cuts would involve a reduction of \$1 billion or more in federal health programs, already hit hard by the budget reconciliation measure approved last August.

Most of the President's proposed savings — \$8.4 billion — would come from a 12 percent, across-the-board slice in appropriations for all domestic programs. The health programs at the Health and Human Services (HHS) Department currently are budgeted at about \$6.5 billion, meaning they would be reduced about \$780 million. Further cuts apparently would come from Medicare and Medicaid.

The President said in a nationally-televised speech that he will seek \$2.6 billion in cuts from entitlement programs in the budget not subject to the appropriations process. These include Medicare and Medicaid, but how much they would be hit remains to be seen.

The initial reaction from Congress was that the

Administration will have a much tougher time winning over the lawmakers this time around because politically popular programs would have to be cut to the bone. Many lawmakers talked in terms of paring defense outlays more than requested by the Administration and going easier on the domestic side.

In his speech, the Chief Executive also asked Congress to authorize interfund borrowing among the Social Security trust funds, a proposal that would allow the Medicare trust fund—in the black at the moment—to be tapped to help out the red-ink retirement funds. President Reagan described this “as a temporary measure to give us time to seek a permanent solution.”

The larger issue of bailing out Social Security over the long haul would be placed before a bipartisan commission “which will review all the options and come up with a plan that assures the fiscal integrity of Social Security . . .”

Budget Director David Stockman said a weapon the Administration may be forced to use to achieve the cuts could be the Presidential veto of appropriations bills that exceed Administration targets. He noted that a two-thirds vote is required to overturn a veto, implying that Congress would not be able to muster that margin on Presidential turn-downs.

Meanwhile, the government (as of Oct. 1) is operating on a continuing resolution at the expenditure levels of the past fiscal year.

* * * *

Sen. Orrin Hatch (R-UT), Chairman of the Senate Labor and Human Resources Committee, is sponsoring legislation to modify the Delaney Clause that is an absolute prohibition on food additives found to cause cancer in man or animals. The clause has been attacked over the years as imposing too strict a ban on additives that have caused cancer only in test animals and in enormous doses. The new bill would apply only to substances that pose “a significant risk to health.”

House hearings are also slated on proposals for “consumer choice” national health plans, though the Administration’s bill isn’t due until the end of the year.

Legislation has also been introduced to place a moratorium on Federal Trade Commission activities involving the learned professions, including medicine. There are 46 sponsors in the House.

In addition, major measures have been intro-

duced to reform federal regulatory procedures to curb unnecessary regulations and give Congress the power to veto rules that overstep agency authority.

* * * *

The Administration’s health block grant program is slated to shortly wheel into operation, but some states may decide to delay for as long as a year.

At a series of regional conferences, Administration officials have been assuring state officials they will be allowed “maximum flexibility” in administering the programs covered under the block grants.

Edward Brandt, M.D., Assistant Secretary for Health at the HHS Department, said his agency is “carrying out the principles of flexibility, minimum federal intrusiveness, and absolute neutrality in its implementation activities.”

Dr. Brandt noted that states may choose to assume responsibility for administering the block grant programs Oct. 1 or to phase in the operation of the blocks during the fiscal year starting October 1.

Congress put some 20 Public Health Service programs into four block grants—Preventive Health; Maternal and Child Health; Mental, Drug and Alcohol; and Community Health Centers. States can administer the block grant funds with much more freedom than existed for the categorical programs.

Dr. Brandt told the Block Grant Regional Conference in Dallas this month that HHS is authorized to continue making awards to individual program grantees in states until the states assume control over the block grants. “But we will only take this action if an existing grant comes up for renewal before you (the states) take over the block containing that particular grant program.”

The amount of money the states will receive for the block grants won’t be known until Congress completes the appropriations process. Dr. Brandt said “the best I can tell you now is that we are going over prior year obligation figures for each program in the blocks to establish the basis for calculating your particular state’s share of each block.”

The law requires each state to tell how it intends to spend its block grant funds. Citizens are supposed to take part in the decision-making process at the state level, but “we will have no

federal guidelines or proposed federal regulations concerning public participation."

Said Dr. Brandt: "The approach we have taken is designed to make sure that the states will truly retain their flexibility and responsibility for decision-making. We intend to regulate only in a few absolutely essential areas. But for most provisions of the block grant law, there will be no regulatory guidance. This is certainly the intent of the block grant legislation proposed by the President and enacted by the Congress."

* * * *

The Senators heading the Republican and Democratic campaign committees have said the American Medical Political Action Committee (AMPAC) played an important role in the last elections. They urged an even greater role for AMPAC in the future.

Addressing AMPAC's political education conference in Washington, D. C., Sen. Wendell Ford (D-KY) told 400 AMPAC members that "you people wrote the book on how to make a PAC work and without question your organization's record of success stands alone."

Describing AMPAC as "a force to be reckoned with," Sen. Ford said in prepared remarks that PACS exert a positive influence on the political process. "Keep up the good work," he said, "and remember that the bottom line is a more responsive and responsible government."

"If ever there was a time for individuals and groups to come together to help minimize the impact of the budget reductions, that time is now," he said. "The need will never be greater or more urgent because the government can no longer afford to carry out all responsibilities."

Sen. John Heinz (R-PA) said that without the help of AMPAC and similar groups the Republicans would not have been able to capture the Senate where GOP control was essential for President Reagan's legislative victories. "We will bring the budget in line; that you can depend on," the Senator said.

AMPAC Board Chairman John Smith, M.D., said the 1980's will bring sweeping changes. "We must play a major role. Our voices will be heard and our presence felt," said the San Antonio physician. Dr. Smith said AMPAC "must be ready to influence positively the decisions made. Medicine and politics do go together."

James Sammons, M.D., Executive Vice Presi-

dent of the American Medical Association, hailed the 20th Anniversary of AMPAC, one of the first political action groups founded. Dr. Sammons said a survey for the AMA showed that 65 percent of all physicians agree that it is the professional responsibility of physicians to support political representative actions undertaken by the profession. Most physicians also agree that "AMPAC has been established to represent the political interests of physicians regarding the support of political candidates."

However, these high percentages of support are not reflected in AMPAC membership, Dr. Sammons noted, with only 12 percent of all physicians and 22 percent of AMA members contributors to AMPAC. He urged the AMPAC audience to make increased membership a top priority.

Make sure that every physician is asked to join, said Dr. Sammons. "We have too often heard doctors say they have not been asked."

The AMPAC members were briefed by top lawmakers and political experts on the political scene in Washington and on the outlook for the future. Some 200 Senators and Representatives attended a Congressional reception hosted by AMPAC.

Edward Rollins, Deputy White House Assistant for Political Affairs, said part of the success of the Reagan Administration "has been due to the efforts of groups such as AMPAC." He expressed optimism that the Administration will be able to build on the 1980 coalition of support and pick up seats in the House and Senate in the 1982 elections despite the tradition that the party in power loses during off-year elections.

Rep. Hal Daub (R-NE) said PACs are a healthy addition to the right of groups to exercise free speech. Political action committees provide valuable services for elected officials and their independent expenditures "serve the constituencies very well."

Tony Coelho (D-CA), Chairman of the House Democratic Congressional Committee, described how he has re-tooled the Committee following the last elections in order to make it more effective, including the appointment of an official to deal with PACs. He predicted the Democrats will gain 10 House seats a year from November and strengthen their control of the House.

Rep. Newton Gingrich (R-GA) said AMPAC and similar groups are "probably more respon-

sible for Congressional legislative victories of the Administration this year than President Reagan." The PAC movement is more significant and important to the future of the nation than the results of the last election, Gingrich said.

Giving to a political action committee "is the act of a free citizen who is able to say 'I was involved; I tried'," he said.

Pulitzer Prize-winning columnist David Broder told the AMPAC audience that the last nine months has been his "most interesting and exciting time in Washington."

"The most extraordinary changes have occurred. A lot of theories have been knocked into a cocked hat including the theory that government is incapable of functioning."

"The Reagan Administration and Congressional Republicans have put their act together and through political skills have energized government," Broder said. "It has been an impressive, dazzling performance so far."

* * * *

Thirteen Professional Standards Review Organizations (PSROs) slated to be closed have been given a reprieve by HHS's Health Care Financing Administration (HCFA).

The thirteen were part of a group of 46 slated to be terminated as part of the Administration's campaign to phase out the PSRO program.

The PSROs targeted for closure have been given appeal rights and the tentative termination decisions in 13 states were reversed.

The PSROs given new life are:

Ohio Area 6 — Region VI Peer Review Corporation, Akron.

Oklahoma Statewide PSRO — Oklahoma Foundation for Peer Review, Inc., Oklahoma City.

Louisiana Area 3 — Louisiana Medical Standards Foundation, Inc., Baton Rouge.

Arizona Area 1 — Northern Arizona Medical Evaluation System, Phoenix.

Pennsylvania Area 1 — Northwestern Pennsylvania PSRO, Erie.

Vermont Statewide PSRO — Vermont Professional Standards Review Organization, Inc., S. Burlington.

New Jersey Area 5 — Judson County PSRO, Jersey City.

Hawaii — Pacific PSRO, Inc., Honolulu.

Pennsylvania Area 13 — Physicians Peer Review Association, Inc., Poland.

Georgia Statewide PSRO — The Georgia Medical Care Foundation, Atlanta.

Michigan Area 2 — Michigan Area II PSRO, Traverse City.

Florida Area 8 — Brevard-Volusia PSRO.

* * * *

Two congressmen want the federal government to recognize the therapeutic benefits of marijuana for cancer and glaucoma patients.

Reps. Stewart McKinney (R-CT) and Newt Gingrich (R-GA) have introduced a bill that would amend the Controlled Substances Act to recognize the medical use of marijuana, without affecting penalties for social use.

Federal law defines marijuana as a drug with no acceptable medical use, and it is available by the federal government only for research. This makes it difficult for patients in 32 states where its medical use is allowed to obtain the drug legally.

Marijuana is said to treat the adverse side effects of cancer chemotherapy and to reduce intraocular pressure in glaucoma patients.

* * * *

The nation's 100,000 former prisoners of war will have an easier time receiving health care benefits under a law signed by President Reagan.

The law waives the two-year period following service during which psychological disorders must manifest themselves in order to be classified as service-connected. It also provides that former POWs who were imprisoned for as few as 30 days may claim certain disabilities as service-connected without furnishing medical proof. Previously, the period was six months.

Former POWs sometimes have trouble establishing claims for service-connected disabilities because of inadequate repatriation medical examinations, the Veterans Administration says. A joint VA-Dept. of Defense study of 1980 found that POWs have higher incidences of physiological and psychological disabilities than those not taken prisoner, because of starvation diets, lack of medical care, and inhumane treatment during imprisonment, the VA said.

The Prisoner of War Health Care Benefits Act of 1981 also establishes an advisory committee on former POWs which will report biennially to the VA administrator and to Congress on POW problems in compensation, health care, and rehabilitation.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

THIRD ANNUAL NUCLEAR MEDICINE SYMPOSIUM: NUCLEAR MEDICINE ONCOLOGY

Presented by Turner Harris, M.D., and Jerry Prather, M.D., of Little Rock, Alexander Gottschalk, M.D., Yale University School of Medicine, and Wayne Wenzel, M.D., Presbyterian Medical Center, Denver, *January 9, 9:00 a.m. to 4:00 p.m.*, Room E-155, Education Wing, St. Vincent Infirmary. Five hours Category I credit. Registration fee: \$25, includes luncheon.

NEW DRUG THERAPY FOR ISCHEMIC HEART DISEASE

Presented by James Whittle, M.D., Assistant Professor of Medicine, UAMS, *January 12, 7:00 p.m.*, In-service Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

UPDATE ON VIRAL HEPATITIS

Presented by Collin Atterbury, M.D., *February 16, 7:00 p.m.*, In-service Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, January 7 and 21 and February 4, 18, 1:00 p.m., Conference Room.

Pathology Conference, January 19 and February 16, 3:00 p.m., Conference Room.

Mortality Conference, January 14 and February 11, 3:00 p.m., Conference Room.

HOT SPRINGS — ST. JOSEPH'S REGIONAL HEALTH CENTER

Chest Conference, second and fourth Tuesday, 12:30 p.m., Red Room.

JONESBORO — AHEC-NORTHEAST

Interesting Case Conference, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

Monthly Medical Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.

Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

Continuing Medical Lecture Series, each Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

Chest Conference, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, second Wednesday, 6:00 p.m. to 12:00 midnight, Human Resources Development Area. Six hours Category I credit.

GI Roundup, December 30 and January 13, 27, 12:00 noon to 1:00 p.m., Conference Room #1.

Emergency Medicine Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.

Morbidity and Mortality Conference, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Surgery Conference, each Thursday except first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Anesthesiology Conference, December 17 and January 21, 7:00 a.m. to 8:00 a.m., Dining Room #3.

Case of the Month, third Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

Central Arkansas Primary Care Conference, second Tuesday, 7:00 p.m. to 9:00 p.m., BMC Auditorium.

Pulmonary Care Conference, each Tuesday, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 p.m. to 1:15 p.m., Coffee Shoppe Dining Room #3.

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E155, Education Wing.

Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.

Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.

Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.

Cardiology Conference, second and fourth Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.

Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S-1169, Laboratory.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



PERSONAL AND NEWS ITEMS

BOARD APPOINTMENT

Dr. David Fried of Mena has been appointed to the State Hospital Board to serve a term expiring in 1983.

NEW PHYSICIAN

Dr. Roy W. Gerritsen, a General Surgeon, has announced the opening of his office at 1600 Lindauer in Forrest City.

SEMINAR SPEAKER

Dr. Sue Chambers of Harrison spoke on Reye's Syndrome and its treatment at a recent seminar at the Boone County Hospital.

SCOLIOSIS SEMINAR

Drs. Raymond Morrissy and Charles N. McKenzie of Little Rock participated in a recent scoliosis screening seminar sponsored by the Arkansas Children's Hospital.

PHYSICIAN LOCATES

Dr. Sinforiano A. Tangonan has joined the Pemiscot County Memorial Hospital staff in Blytheville. Dr. Tangonan is an Anesthesiologist.

DOCTORS BRIEF STUDENTS

Drs. Thomas Hoberock, Hubert Peterson, and Thomas Simpson, all of Harrison, recently demonstrated usage of various equipment and laboratory procedures to an anatomy and physiology class at the local high school.

DR. J. H. BURGE HONORED

Lake Village declared Sunday, October 25, as "Dr. Burge Day" in honor of Dr. J. H. Burge for his years of service to the community. Dr. Burge has practiced in Southeast Arkansas since 1927.

DR. JONES SPEAKS

Dr. Herbert Jones of Blytheville spoke at a recent meeting of the Mississippi County Unit of Arkansas Retired Teachers Association.

NEW PHYSICIAN IN PIGGOTT

Dr. James Sheridan, an Internist, has joined the Piggott Clinic.

RIBBON CUTTING CEREMONY

Dr. Robert Miller, Helena Hospital Chief of Staff, participated in a ribbon cutting ceremony for a new pediatric wing at the hospital in October.

DR. PUPSTA SPEAKS

Dr. Ben Pupsta of Clarendon spoke at the recent meeting of the Clarendon Lions' Club.

PHYSICIAN MOVES

Dr. Ngoc Van Hoang, formerly of Cotton Plant, has opened his office at the Mid-Delta Community Services, Inc., Rural Health Clinic in Clarendon.

CHINA TOUR

Dr. James G. Stuckey of Little Rock recently toured mainland China with a group of international plastic surgeons following the Tokyo meeting of the International Society of Aesthetic Plastic Surgery. The group lectured to Chinese surgeons in Peking and Shanghai, and visited hospitals in Quilin and Canton.

DR. GARBUTT

Dr. Leopold H. Garbutt, an Orthopaedic Surgeon, has joined the staff of the Randolph County Medical Center in Pocahontas.



ANSWER — Electrocardiogram of the Month

DISCUSSION: The abnormalities noted on the trace consist of marked ST elevation in AVL and V₁-V₃ with ST depression in II, III, and aVF, changes compatible with acute infarction. However, the transient nature of the patient's pain and his ECG changes does not favor acute infarction. So, the presence of rest pain and the marked ST-segment elevation makes one think of variant angina. Commonly, the ECG changes involve the inferior leads but any lead may be involved. Often, severe proximal coronary lesions are found, though many patients will have normal coronary arteries in the absence of pain. The fact that this particular patient initially had common angina, then developed rest pain with this set of ECG findings suggests the presence of fixed disease with the subsequent development of coronary spasm. Nonspecific beta-adrenergic blockers may in theory be detrimental in the treatment of coronary spasm since beta-2 receptor blockade may allow alpha-receptor mediated coronary vasoconstriction to occur. In this patient, whose rest pain increased in frequency with propranolol one would elect, when confronted with his ECG changes, not to increase his propranolol.

Coronary angiograms were done on this patient and he was found to have a tight preseptal lesion of the left anterior descending coronary artery. Spontaneous spasm of the LAD distal to the lesion occurred during the procedure with ECG changes identical to those described above again being noted. He was referred for surgery. Thus, 2 and 3 are true.



NEW MEMBERS

DR. OSCAR L. HENDERSON

Dr. Henderson, a native of Mena, is a new member of the Benton County Medical Society.

After receiving his pre-med education at California State Polytechnic University in Pomona and the University of Arkansas at Fayetteville, Dr. Henderson served with the military from 1967 to 1970. He was graduated from the University of Arkansas College of Medicine in 1976 and did his intern and residency training with the University Hospital.

Dr. Henderson joined the Orthopaedic-Neurological Clinic in Rogers in June of 1981. His specialty is Orthopaedics. Dr. Henderson's office address is 101 North 37th Street in Rogers.

DR. RICHARD ELLISON McLENDON

Dr. McLendon is a new member of the Craighead-Poinsett County Medical Society. He was born in Knoxville, Tennessee.

Dr. McLendon is a 1973 graduate of Vanderbilt University and a 1976 graduate of the University of Tennessee College of Medicine in Memphis. After an internship with the University of Tennessee Institute of Pathology, he served a Pathology residency with the Methodist Hospitals of Memphis.

Dr. McLendon has been in practice in Jonesboro since June 1981. His office is at 411 East Matthews in Jonesboro.

DR. PAUL N. PETTIT

Dr. Pettit has been accepted for membership by the Crittenden County Medical Society. He is a native of Memphis, Tennessee.

Dr. Pettit received two degrees from Memphis State University in Tennessee — a B.S. in May of 1964 and an M.S. in January of 1967. He was graduated from the University of Arkansas College of Medicine in 1971. After his internship at Tulane University Hospitals in New Orleans, Dr. Pettit served as a flight surgeon in the United

States Air Force until 1974. His residency was with Emory University Hospitals in Atlanta and Tulane University Hospitals; his fellowship was with Shea Clinic in Memphis.

Dr. Pettit was in private practice in Natchez, Mississippi, for six months. Dr. Pettit has been practicing in the Memphis-West Memphis area since January 1980. He is an instructor with the Department of Otolaryngology at the University of Tennessee College of Medicine and is on the clinical staff of St. Jude Children's Research Hospital.

Dr. Pettit is board certified in Otolaryngology. His office is located in Suite 302 at 228 Tyler, West Memphis.

DR. JOHN C. SMITH

Dr. Smith has joined the Franklin County Medical Society. He is a native of Paris.

Dr. Smith was granted an M.S. degree from the University of Arkansas at Fayetteville in 1970. He is a 1974 graduate of the University of Arkansas College of Medicine. After an internship with John Peter Smith Hospital, Dr. Smith served for two years at Cutler Army Hospital. His residency training was with the University of Oklahoma (Tulsa) Medical College Affiliated Hospitals from 1977 to 1980.

In September 1981, Dr. Smith began private practice. His specialty is General Surgery.

Dr. Smith has his office with Ozark Specialties Clinic, 317 West Commercial, in Ozark. He also does some practice with his father, Dr. James T. Smith, at the Smith Clinic in Paris.

DR. B. V. PAI

Dr. Pai has been added to the Garland County Medical Society membership roll. He is a native of Adyanadka, India.

Dr. Pai was graduated from the Kasturba Medical College, Manipal, Mysore, India, in 1970. His internship was with Wenlock Hospital, Mangalore, India. Dr. Pai was assistant professor of medicine with Kasturba Medical College from 1973 to 1974. In July 1974, he entered residency training at the Jewish Hospital in Cincinnati. He left Cincinnati in 1977 for further training at the University of Louisville in Kentucky. Dr. Pai practiced in Corbin, Kentucky, from July 1979 until June 1981, when he located in Hot Springs.

Dr. Pai is board certified in Internal Medicine and Cardiology. He is associated with The Heart

Clinic, Ltd., at 2513 Malvern Avenue in Hot Springs.

DR. MARY BELL

Dr. Bell has joined the Mississippi County Medical Society. She was born in Louisville, Kentucky.

After receiving a B.S. from the University of Kentucky, Dr. Bell attended the University of Kentucky College of Medicine in Lexington and was graduated in 1977. She served her internship with the City of Memphis Hospital, Tennessee, and her residency was with the Department of Obstetrics and Gynecology at the University of Tennessee College of Medicine. She is a junior fellow of the American College of Obstetrics and Gynecology.

Dr. Bell moved to Blytheville in July 1981. Her office is in the Medical Arts Building at 527 North 6th Street in Blytheville.

DR. EDWARD P. FODY

Dr. Fody has joined the Pulaski County Medical Society. He was born in Baltimore, Maryland.

After graduating from Duke University in Durham, North Carolina, Dr. Fody received his medical education at Vanderbilt University School of Medicine in Nashville. His internship and Pathology residency were with Vanderbilt Hospital.

Dr. Fody was a member of the teaching staff at the University of Texas at Houston from 1979 to 1981. He is currently a member of the teaching staff with the University of Arkansas College of Medicine. Dr. Fody is board certified in Anatomic and Clinical Pathology and Chemical Pathology.

Dr. Fody specializes in Pathology. He is associated with the Veterans Administration Hospital at 300 East Roosevelt Road in Little Rock.

DR. B. KRISHNAN

Dr. Krishnan is another new member of the Pulaski County Medical Society. He is a native of Calcut, India.

Dr. Krishnan is a graduate of the St. Joseph College in Calicut, India, and Calicut Medical College, Calicut, Kerala, India. His internship was with Unity Hospital in Brooklyn, New York. From 1967 to 1971, Dr. Krishnan served a General Surgery residency with the Edward Hines Jr. Veterans Administration Medical Center in Maywood, Illinois. He did residency training in Thoracic Surgery at the same institution from

1971 to 1973 and from 1973 to 1974 did further Thoracic Surgery training with the Newark Beth Israel Medical Center in New Jersey. Dr. Krishnan was also associated with the Newark Beth Israel Medical Center teaching staff.

Dr. Krishnan is board certified in General Surgery and Thoracic Surgery.

Dr. Krishnan specializes in Cardiovascular Surgery. His office is in Suite 200 of the Medical Towers Building in Little Rock.

DR. DONALD GORDON SEIBEL

Dr. Seibel, a native of Saskatoon, Saskatchewan, Canada, has joined the St. Francis County Medical Society.

In 1973 Dr. Seibel received his B.S. in Medicine from the University of Alberta, Canada, and in 1975 received his medical degree from the University of Alberta Faculty of Medicine in Edmonton, Canada.

Dr. Seibel served a rotating internship and Family Practice residency with the Royal Alexandra Hospital in Edmonton, Alberta. He had Internal Medicine training at the National Defense Medical Center in Ottawa, Ontario. Dr. Seibel served as an assistant clinical instructor with the Department of Family Medicine at the University of Alberta Hospital.

Before moving to Forrest City, Dr. Seibel was in private practice in Overton, Texas; Edson, Alberta; and was a full-time emergency room physician with the University of Alberta Hospital.

Dr. Seibel located in Forrest City in March 1981. He is in Family Practice at 318 East Cook Street in Forrest City.

DR. JAMES F. CHERRY

Dr. Cherry, a native of Des Moines, Iowa, is a new member of the Washington County Medical Society.

Dr. Cherry received his pre-med education at the University of Arkansas. In 1973, he was graduated from the University of Arkansas College of Medicine. His internship and Radiology residency were also with the University Medical Center. From 1976 to 1977, Dr. Cherry was an instructor in Radiology at the Medical Center.

From 1977 to 1979, Dr. Cherry served with the United States Navy in Great Lakes, Illinois.

Dr. Cherry, a board certified Radiologist, specializes in Diagnostic Radiology. His office is at Springdale Memorial Hospital at 607 Maple.



OBITUARY

DR. PHILIP T. CULLEN

Dr. Philip T. Cullen of Little Rock died October 19, 1981. He was born October 27, 1915, in Ronlette, Pennsylvania.

Dr. Cullen's pre-med education was with the Bucknell University in Lewisburg, Pennsylvania, and the University of Arkansas at Fayetteville. He was a graduate of the University of Arkansas College of Medicine and the Graduate School of Medicine of the University of Pennsylvania in Philadelphia. He served his internship at St. Vincent's Hospital in Los Angeles.

Dr. Cullen served four years with the Army Air Corps during World War II and was discharged as a major; he later achieved the rank of lieutenant colonel in the Air Force Reserve.

Dr. Cullen specialized in Internal Medicine and Occupational Medicine. He was a Fellow of the American College of Chest Physicians and held memberships in the American College of Physicians, the American Society of Internal Medicine, and the Society of Occupational Medicine. Dr. Cullen served on the staffs of Baptist Medical Center, St. Vincent Infirmary, Memorial Hospital and Doctors Hospital. He had served as medical advisor to the Southwestern Bell Telephone Company for several years and had served on the board of the State's McRae Memorial Tuberculosis Sanatorium from 1965 to 1969.

Dr. Cullen was also a member of the Trinity

United Methodist Church, Trinity Masonic Lodge 694 and Scimitar Shrine Temple.

He is survived by his wife, Mrs. Phyllis Ann Rees Cullen, three sons, and one daughter.

DR. T. J. CUNNINGHAM, JR.

Dr. Cunningham of Pine Bluff died October 29, 1981. He was born August 31, 1911, in Redfield. He had practiced in Pine Bluff from 1939 until his retirement in 1979.

Dr. Cunningham was a 1933 graduate of Tulane University in New Orleans, Louisiana, and a 1937 graduate of the University of Arkansas School of Medicine. His internship was served at Charity Hospital in Shreveport, Louisiana.

Dr. Cunningham was a Mason and a member of the American College of Physicians and Surgeons.

Dr. Cunningham is survived by his wife, Margaret Louise Davis Cunningham, a daughter, his son Dr. Thomas J. Cunningham II of Hamburg, and two other sons.

DR. W. PAUL GRAY

Dr. Paul Gray died November 9, 1981; he was born August 14, 1912.

Dr. Gray was a 1938 graduate of the University of Arkansas School of Medicine. He had practiced in Batesville since 1939. Dr. Gray was staff director and administrator of Doctor Gray's Hospital in Batesville. He was a member of the Southern Medical Association, the American College of Chest Physicians, the Rotary Club and the First United Methodist Church. Dr. Gray had served on the Council of the Arkansas Medical Society for the Second District from 1961 to 1981.

Dr. Gray is survived by his wife, Dorothy Landis Gray, a daughter, and his brother, Dr. Laman A. Gray, Sr., of Kentucky.



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December 1, 1981



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POST OFFICE BOX 1208
FORT SMITH, ARKANSAS 72902
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MEMBERSHIP ROSTER OF THE ARKANSAS MEDICAL SOCIETY 1981-1982

Type of Practice	Member's Name	Address	Telephone Number
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FP.	Cross, Joseph E.	Post Office Box 472, DeWitt 72042.	946-1676
FP.	Daniel, Noble B.	Route 1, Box 21-D, Stuttgart 72160.	673-7211
FP.	Guyer, G. L.	Route 1, Box 21-D, Stuttgart 72160.	673-7211
FP.	Hestir, John M.	Post Office Drawer 512, DeWitt 72042.	946-3637
FP.	John, Milton C., Jr.	Route 1, Box 21-D, Stuttgart 72160.	673-7211
GP.	Malloy, Mark J.	Route 1, Box 21-D, Stuttgart 72160.	673-7211
GS.	Millar, Paul H.	Route 1, Box 21-D, Stuttgart 72160.	673-7211
FP.	Morgan, Jerry D.	Route 1, Box 21-D, Stuttgart 72160.	673-7211
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FP.	Northcutt, Carl E.	Post Office Box 25, Stuttgart 72160.	673-7211
FP.	Pritchard, Jack L.	1022 South Main, Stuttgart 72160.	673-2331
GP.	Rasco, Charles W., Jr.	111 South Jackson, DeWitt 72042.	946-3156
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GP.	Rankin, James D., Jr.	Post Office Box 232, Hamburg 71646.	853-8271
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GP.	Salby, R. L.	113 Pine, Crossett 71635.	364-2138
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PS.	Beckman, James S., Jr.	Post Office Box 276, Mountain Home 72653.	425-5232
EM.	Brian, Francis M., Jr.	8axter General Hospital, Mountain Home 72653.	425-3141
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PD.	Chock, Helga E.	Post Office Box 786, Mountain Home 72653.	425-5535
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GP.	Gotaas, Bernice.	Post Office Box 44, Bull Shoals 72619.	445-4755
GP.	Guenther, John F.	126 West 6th, Mountain Home 72653.	425-3131
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P.	Ball, Eugene H.	Route 2, Box 53, Rogers 72756.	636-8307
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OPH.	Boozman, Fay W., III.	Post Office Box 1353, Rogers 72756.	636-7506
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GS.	Costaldi, Mario E.	1223 West Walnut, Rogers 72756.	636-5411
PTH.	Denman, David A.	Rogers Memorial Hospital, Rogers 72756.	636-0200
IM.	Donnell, Robert W.	Post Office Box 737, Rogers 72756.	636-2711
O&G.	Elkins, James P.	1116 Poplar Place, Rogers 72756.	636-0300
GP.	Floyd, Louis C.	Route 8, Box 100, Bentonville 72712.	855-3711
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FP.	Huskins, John A.	Post Office Box 737, Rogers 72756.	636-2711
RD.	Jennings, W. E.	817 Summit Drive, Rogers 72756 (Res.)	636-3122
ORS.	Kendrick, Carl M.	101 North 37th, Rogers 72756.	636-9607
R.	Knapp, James R.	Rogers Memorial Hospital, Rogers 72756.	636-0200, Ext. 764
IM.	Miles, Richard W.	Post Office Box 1000, Rogers 72756.	636-6551
GP.	McCollum, Edward N.	Post Office Box 127, Decatur 72722.	752-3233
GE.	McKnight, William D.	Post Office Box 1567, Rogers 72756.	636-3627
FP.	Neaville, Gary A.	Post Office Box 737, Rogers 72756.	636-2711
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RD.	Pickens, James L.	2212 West Walnut, Rogers 72756 (Res.)	636-2862
R.	Platt, Michael R.	Post Office Drawer I, Gravette 72736.	787-5291, Ext. 196

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RD.....	Robbins, Robert H.....	122 See Street, Rogers 72756 (Res.).....	925-1506
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IM.....	Rolnick, Wallace A.....	Post Office Box 1000, Rogers 72756.....	636-6551
GP.....	Ronald, Douglas C.....	Route 8, Box 100, Bentonville 72712.....	855-3711
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IM.....	Waldon, G. Bruce.....	Post Office Box 1000, Rogers 72756.....	636-6551
GP.....	Warren, Grier D.....	Post Office Box 737, Rogers 72756.....	636-2711
FP.....	Webb, William F.....	Post Office Box 368, Decatur 72722.....	752-3233
IM.....	Wright, Larry D.....	1040 West Walnut, Rogers 72756.....	636-2711

BOONE COUNTY

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R.....	Bennett, Joe D.....	651 North Spring, Harrison 72601.....	365-9667
P.....	Butts, Donald R.....	Post Office Box 1214, Harrison 72601.....	741-3915
OTO.....	Chambers, Carlton L.....	Bower at Pine, Harrison 72601.....	741-7684
PD.....	Chambers, Elizabeth Sue.....	Bower at Pine, Harrison 72601.....	741-7684
FP.....	Daniel, Charles D.....	Post Office Box E, Marshall 72650.....	448-3327
U.....	Ferguson, Noel F.....	707 North Vine, Harrison 72601.....	741-9481
FP.....	Fowler, Ross E.....	217 West Stephenson, Harrison 72601.....	741-8651
IM.....	Garland, William J., Jr.....	Post Office Box 1077, Harrison 72601.....	741-3459
GS.....	Gladden, Jean C.....	Post Office Box 1118, Harrison 72601.....	741-9355
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GS.....	Hoberock, Thomas R.....	Post Office Box 1116, Harrison 72601.....	741-7411
TS.....	Hudson, William A.....	Hudsonakers, Jasper 72641 (Res.).....	446-2948
RD.....	Jackson, Ulys.....	424 South Willow, Harrison 72601 (Res.).....	743-1134
GP.....	Kirby, Henry V.....	825 North Spring, Harrison 72601.....	741-5022
IM.....	Klepper, Charles R.....	Post Office Box 578, Harrison 72601.....	741-3592
OPH.....	Kuharich, Richard M.....	825 North Spring, Harrison 72601.....	741-9492
FP.....	Langston, Robert H.....	520 North Spring, Harrison 72601.....	741-8286
OPH.....	Laule, Alice R.....	715 West Sherman, Harrison 72601.....	741-1910
ORS.....	Ledbetter, Charles A.....	224 West Erie, Harrison 72601.....	741-8289
O8G.....	Mahoney, Paul L., Jr.....	Post Office Box 1241, Harrison 72601.....	741-7334
FP.....	Maris, Mahlon O.....	Post Office Box 1597, Harrison 72601.....	741-8247
GP.....	McCoy, Orville B.....	Post Office Box 578, Harrison 72601.....	741-3592
FP.....	Poynor, Charles M.....	124 East Church, Berryville 72616.....	423-2806
R.....	Robinson, G. Allen.....	Post Office Box 728, Harrison 72601.....	741-2763
GP.....	Scroggins, Sam J.....	825 North Spring, Harrison 72601.....	741-6373
O8G.....	Simpson, Thomas J.....	702 North Spring, Harrison 72601.....	741-2441
CD.....	Smith, Van.....	Post Office Box 1077, Harrison 72601.....	741-3459
ORS.....	Vowell, Don R.....	224 West Erie, Harrison 72601.....	741-8289
FP.....	Wallace, Oliver.....	Post Office Drawer AA, Green Forest 72638.....	438-5218
ORS.....	Williams, Ralph E.....	302 Rice, Berryville 72616.....	423-3338
GS.....	Williams, Rhys A.....	Post Office Box 1118, Harrison 72601.....	741-8275
FP.....	Wilson, Joe B.....	520 North Spring, Harrison 72601.....	741-8286

BRADLEY COUNTY

RD.....	Crow, Merl T.....	504 Hankins, Warren 71671 (Res.).....	226-3326
FP.....	Marsh, James W.....	302 North Main, Warren 71671.....	226-2112
FP.....	Whaley, William C., Jr.....	205 East Church, Warren 71671.....	226-5811
FP.....	Wynne, George F.....	113 West Cypress, Warren 71671.....	226-2844

CHICOT COUNTY

FP.....	Burge, John H.....	Lake Village Clinic, Lake Village 71653.....	265-5343
GS.....	Burge, John P.....	Lake Village Clinic, Lake Village 71653.....	265-5343
IM.....	Ponrartana, Prasart.....	Highway 82 and 65, Lake Village 71653.....	265-5374
PD.....	Ponrartana, Saowaree.....	Highway 82 and 65, Lake Village 71653.....	265-5374
GP.....	Russell, John R.....	Post Office Box 728, Lake Village 71653.....	265-5343
IM.....	Sinlar, P.....	2420 North Highway 65, Eudora 71640.....	355-4496
GP.....	Smith, Major E.....	Post Office Box 310, Dermott 71638.....	538-5717
IM.....	Talbot, Allen G.....	Lake Village Clinic, Lake Village 71653.....	265-5343
GP.....	Tan, Chu ly.....	604 South Pecan, Dermott 71638.....	538-3234
GP.....	Thomas, H. W.....	Post Office Box 250, Dermott 71638.....	538-5255
GP.....	Tvedten, Tom.....	Lake Village Clinic, Lake Village 71653.....	265-5343
GP.....	Weaver, William J.....	Post Office Box Q, Eudora 71640.....	355-4376
GP.....	Wilson, Thomas C.....	Post Office Box J, Dermott 71638.....	538-5253

CLARK COUNTY

RD.....	Anderson, P. R.....	232 North 13th, Arkadelphia 71923 (Res.).....	246-4464
GP.....	Balay, J. W.....	416 Main, Arkadelphia 71923.....	246-2431
GP.....	Blackmon, James T.....	1008 Pine, Arkadelphia 71923.....	246-6734
RD.....	Clark, Charles G.....	1108 Huddleston, Arkadelphia 71923.....	246-4493
#.....	Gary, Eli.....	Arkadelphia.....	
RD.....	Kennedy, Jack W.....	106 Evonshire, Arkadelphia 71923 (Res.).....	246-8105
FP.....	Luck, H. D.....	3004 West Pine, Arkadelphia 71923.....	246-2471
FP.....	Mann, R. Jerry.....	416 Main, Arkadelphia 71923.....	246-2431
FP.....	McGrew, Gary L.....	107 North 3rd, Gurdon 71743.....	353-2504
P.....	Parsons, V. Earl.....	117 North 11th, Arkadelphia 71923.....	246-8364
GP.....	Peeples, George R.....	305 East Main, Gurdon 71743.....	353-4422
GP.....	Ritter, N. R.....	3004 West Pine, Arkadelphia 71923.....	246-2471
FP.....	Russell, James D.....	3004 West Pine, Arkadelphia 71923.....	246-2471
GP.....	Scarborough, John W.....	204 East Walnut, Gurdon 71743.....	353-4486
RD.....	Toombs, Vernon L.....	101 Charlotte, Gurdon 71743 (Res.).....	353-2935

CLEBURNE COUNTY

GP.....	Ashabranner, Wesley J.....	401 Searcy, Heber Springs 72543.....	362-2414
OPH.....	Baldrige, Max.....	Post Office Box 431, Heber Springs 72543.....	362-3479
RD.....	Barnett, James C.....	1828 West Front, Heber Springs 72543 (Res.).....	362-2786
GP.....	Barnett, Michael E.....	4th and Spring Streets, Heber Springs 72543.....	362-3143
OPH.....	Beasley, Harold.....	Post Office Box 272, Heber Springs 72543.....	362-3479
GP.....	Blackburn, Stephen K.....	421 South 7th, Heber Springs 72543.....	362-8203
FP.....	Eans, Thomas L.....	421 South 7th, Heber Springs 72543.....	362-8203
FP.....	Hinkle, R. A.....	Post Office Box 128, Quitman 72131.....	589-2600
GP.....	McClanahan, Donald H.....	401 West Searcy, Heber Springs 72543.....	362-2414
GP.....	Poff, Joseph H.....	401 West Searcy, Heber Springs 72543.....	362-2414
FP.....	Poff, Nathan L.....	Post Office Box 1111, Heber Springs 72543.....	362-2414
RD.....	Rhyne, James T.....	Post Office Box 168, Heber Springs 72543 (Res.).....	362-5044
R.....	Scruggs, Joe B.....	Cleburne County Hospital, Heber Springs 72543.....	362-3121
IM.....	Sharp, Jack V.....	Post Office Box 70, Heber Springs 72543.....	362-3316
FP.....	Wells, W. M.....	300 East Roosevelt Road, Little Rock 72206.....	372-8361

Type of Practice	Member's Name	Address	Telephone Number
COLUMBIA COUNTY			
FP	Alexander, John E.	707 North Washington, Magnolia 71753	234-2288
PD	Baldwin, Ronald L.	1411 North Jackson, Magnolia 71753	234-7912
IM	Edwards, Eustace L., III	105 West North, Magnolia 71753	234-1894
FP	Farmer, John M.	104 East Columbia, Magnolia 71753	234-2230
IM	Flournoy, Durwood W.	105 West North, Magnolia 71753	234-1894
FP	Griffin, Rodney L.	123 North Jackson, Magnolia 71753	234-3040
R	Hunter, Robert W., Jr.	2602 Crestview, Magnolia 71753	235-3243
#	Jones, Thomas H.	Waldo	
FP	Kelley, Charles W.	1327 North Washington, Magnolia 71753	234-5544
GS	McMahen, H. Scott	Post Office Box 647, Magnolia 71753	234-3340
GP	Pullig, Thomas A.	805 North Jackson, Magnolia 71753	234-8570
FP	Robertis, Franklin D.	110 West North, Magnolia 71753	234-8430
GP	Ruff, John L.	104 Hospital Road, Magnolia 71753	234-2144
GP	Rushton, Joe F.	219 North Washington, Magnolia 71753	234-1168
GP	Strange, Vance M.	Post Office Box 67, Stamps 71860	533-2438
GYN	Talley, Aubry	804 North Jackson, Magnolia 71753	234-8232
FP	Walker, Jack T.	123 North Jackson, Magnolia 71753	234-3040
FP	Weber, Charles H.	110 West North, Magnolia 71753	234-4411
#	Wilson, John H.	Magnolia	
CONWAY COUNTY			
GP	Bishop, Robert G.	Post Office Box 677, Morrilton 72110	354-2456
FP	Buchanan, Thomas L.	200 South Moose, Morrilton 72110	354-4637
FP	Evans, Clifford L.	Post Office Box 706, Morrilton 72110	354-0135
GP	Hickey, Thomas H.	Post Office Box 214, Morrilton 72110	354-4623
GP	Hyatt, Benjamin C.	Post Office Box 265, Perryville 72126	889-5141
GP	Lipsmeyer, Keith M.	Post Office Box 677, Morrilton 72110	354-2456
GP	Owens, Gastor B.	601 South Moose, Morrilton 72110	354-4505
PTH	Rozzell, Allen R.	601 South Moose, Morrilton 72110	354-1225
FP	Wells, Charles F.	601 South Moose, Morrilton 72110	354-2123
CRAIGHEAD-POINSETT COUNTY			
D	Alston, Herman D.	816 Cobb, Jonesboro 72401	932-4570
R	Aston, J. Ken	3024 Stadium Boulevard, Jonesboro 72401	972-7260
IM	Baldridge, John A.	505 East Matthews, Jonesboro 72401	932-1199
OBG	Basinger, James W.	Post Office Box 1478, Jonesboro 72401	935-3990
OBG	Berry, Donald M.	505 East Matthews, Jonesboro 72401	935-3990
OBG	Blair, Richard A.	Post Office Box 1478, Jonesboro 72401	935-3990
P	Blaylock, Jerry D.	901 South Church, Jonesboro 72401	935-0360
U	Bogaev, Leonard R.	812 Cobb, Jonesboro 72401	932-2926
R	Buckner, John H.	823 Union, Jonesboro 72401	932-7458
IM	Burns, Richard G.	505 East Matthews, Jonesboro 72401	932-1198
IM	Clopton, Owen H.	505 East Matthews, Jonesboro 72401	932-1198
IM	Cohen, Robert S.	Post Office Box 865, Jonesboro 72401	932-7379
GP	Cole, Gary B.	3100 Apache Drive, Jonesboro 72401	972-1733
FP	Crawley, Michael E.	3100 Apache Drive, Jonesboro 72401	972-1720
ORS	Dickson, Glenn E.	505 East Matthews, Jonesboro 72401	932-1820
GS	Drake, James E.	211 East Matthews, Jonesboro 72401	972-1960
OTO	Eddington, William R.	505 East Matthews, Jonesboro 72401	935-8132
GS	Faris, John C.	907 Union, Jonesboro 72401	935-8470
FP	Forestiere, A. J.	Post Office Box 106, Harrisburg 72432	578-5443
R	Garner, William L.	Post Office Box 1030, Jonesboro 72401	932-0639
OPH	George, F. Joseph	1916 East Matthews, Jonesboro 72401	932-0485
OTO	Gossett, Clarence E.	505 East Matthews, Jonesboro 72401	935-8132
R	Green, W. Robert	Post Office Box 1030, Jonesboro 72401	932-0639
IM	Guinn, Donald R.	505 East Matthews, Jonesboro 72401	932-1198
P	Guthrie, Alastair	2701 South Caraway Road, Jonesboro 72401	932-0692
IM	Hall, Ray H.	311 East Matthews, Jonesboro 72401	935-4150
GP	Harper, T. P.	Post Office Box C, Monette 72447	486-2131
GE	Hightower, Michael D.	311 East Matthews, Jonesboro 72401	935-4150
GP	Hogue, Ernest L.	Post Office Box 409B, Jonesboro 72401	932-8121
R	Holland, James A.	Post Office Box 1124, Jonesboro 72401	932-7458
	James, Frank M.	Geary, Oklahoma	
AN	Johnson, Larry H.	806 South Church, Jonesboro 72401	932-4211
PD	Johnson, Roehl W.	505 East Matthews, Jonesboro 72401	935-6012
	Jones, R. J.	Whiteman AF8, Missouri	
GE	Jordan, Harry J.	311 East Matthews, Jonesboro 72401	935-4150
GS	Keisker, H. W.	505 East Matthews, Jonesboro 72401	932-4581
PD	Kemp, Charles E.	505 East Matthews, Jonesboro 72401	935-6012
PTH	Kroe, Donald J.	411 East Matthews, Jonesboro 72401	932-7430
U	Lassonde, Robert G.	3100 Apache Drive, Jonesboro 72401	972-8674
FP	Lawrence, Robert O.	417 East Matthews, Jonesboro 72401	972-0550
FP	Ledbetter, Joseph W.	804 South Church, Jonesboro 72401	935-5454
FP	Ledeune, John E.	3100 Apache Drive, Jonesboro 72401	972-1720
OBG	Lunde, Stephen P.	Post Office Box 1478, Jonesboro 72401	935-3990
NEP	Mackey, Michael	311 East Matthews, Jonesboro 72401	935-4150
ORS	Mahon, Larry E.	910 South Main, Jonesboro 72401	935-9123
AN	Mitchell, George E.	806 South Church, Jonesboro 72401	932-4211
FP	Modelevsky, A. C.	Post Office Box 1427, Jonesboro 72401	932-0980
OPH	McKee, Bobby E.	505 East Matthews, Jonesboro 72401	935-6396
PTH	McLendon, Richard E.	411 East Matthews, Jonesboro 72401	932-7430
EM	Neff, Michael D.	224 East Matthews, Jonesboro 72401	972-4288
EM	Peeler, Malcolm O.	224 East Matthews, Jonesboro 72401	972-4288
GS	Piat, Robert D.	3100 Apache Drive, Jonesboro 72401	972-8470
FP	Plunk, Hermie	5005 East Nettleton, Jonesboro 72401	932-1181
GP	Poole, Grover D.	Post Office Box 10, Jonesboro 72401	932-2634
P	Price, Edwin F.	Post Office Box 5033, Jonesboro 72401	972-0290
	Pustrom, Einar	Belmont, North Carolina	
PD	Rainwater, W. T.	505 East Matthews, Jonesboro 72401	935-6012
FP	Raney, Bascom P.	403 East Matthews, Jonesboro 72401	935-5529
OBG	Reid, E. Paul	3100 Apache Drive, Jonesboro 72401	972-6740
FP	Robbins, Robert A.	208 Cobean Boulevard, Box 8, Lake City 72437	237-4396
FP	Robinette, James M.	801 Osler Drive, Jonesboro 72401	932-2423
D	Rogers, James F.	406 East Washington, Jonesboro 72401	935-4755
GS	Rusher, Albert H.	211 East Matthews, Jonesboro 72401	972-1960
OBG	St. Clair, John T., Jr.	Post Office Box 1478, Jonesboro 72401	935-3990
GS	Sanders, James W.	826 South Main, Jonesboro 72401	932-4875
NS	Sapiro, Gary S.	223 East Jackson, Jonesboro 72401	972-8032
ORS	Schrantz, James L.	830 Cobb, Jonesboro 72401	972-8040
U	Scriber, Ladd J.	812 Cobb, Jonesboro 72401	932-2926
FP	Sears, Larry C.	924 South Main, Jonesboro 72401	972-8181
FP	Sears, V. Glenn	924 South Main, Jonesboro 72401	972-8181
RD	Shanlever, R. C.	1103 Wilkins, Jonesboro 72401 (Res.)	932-2450
ORS	Shanlever, W. T.	806 Jeter Drive, Jonesboro 72401	972-1640
EM	Shepherd, W. F.	224 East Matthews, Jonesboro 72401	972-4288

Type of Practice	Member's Name	Address	Telephone Number
PD	Skaug, Warren A.	505 East Matthews, Jonesboro 72401	935-6012
GP	Smith, Floyd A., Jr.	415 West Main, Trumann 72472	483-6411
GP	Smith, Vestal B.	Post Office Box 614, Marked Tree 72365	358-2811
AN	Sparks, E. Barrett	806 South Church, Jonesboro 72401	932-4211
OPH	Stainton, Joseph C.	1916 East Matthews, Jonesboro 72401	932-0490
PTH	Stainton, R. M., Jr.	411 East Matthews, Jonesboro 72401	932-7430
FP	Stallings, Joe H., Jr.	417 East Matthews, Jonesboro 72401	972-0550
FP	Swingle, Charles G.	Post Office Box 267, Marked Tree 72365	358-2036
FP	Taylor, G. Wayne	211 East Matthews, Jonesboro 72401	972-1570
IM	Taylor, Robert D.	311 East Matthews, Jonesboro 72401	935-4150
FP	Tedder, Michael E.	3100 Apache Drive, Jonesboro 72401	972-1810
FP	Thomas, James F.	Southgate Plaza, Jonesboro 72401	935-8510
OPH	Utley, Phillip M.	920 South Main, Jonesboro 72401	932-8221
FP	Verser, Joe	Post Office Box 106, Harrisburg 72432	578-5443
PTH	Vollman, Don B., Jr.	411 East Matthews, Jonesboro 72401	932-7430
OPH	Webb, James W.	920 South Main, Jonesboro 72401	932-8221
U	Williams, E. Walden	812 Cobb, Jonesboro 72401	932-2926
FP	Williams, John R.	223 East Jackson, Jonesboro 72401	972-0063
GP	Wilson, Francis M.	Post Office Box 4098, Jonesboro 72401	932-8121
PTH	Wilson, Joe T., Jr.	411 East Matthews, Jonesboro 72401	932-7430
RD	Winters, W. Lee	2113 Indian Trails, Jonesboro 72401 (Res.)	935-4824
GP	Wisdom, G. Durwood	Post Office Box 4098, Jonesboro 72401	932-8121
FP	Young, S. Morris	3100 Apache Drive, Jonesboro 72401	972-5500
OTO	Young, William C., Jr.	311 East Matthews, Jonesboro 72401	932-6799

CRAWFORD COUNTY

IM	Crowley, Kevin P.	Post Office Box 664, Van Buren 72956	474-5061
FP	Darden, Lester R.	Post Office Box 623, Van Buren 72956	474-2336
GP	Edds, Millard C.	1103 Chestnut, Van Buren 72956	474-2361
IM	Edwards, Henry N.	Post Office Box 608, Van Buren 72956	474-5061
RD	Hopkins, Ed G.	Route 2, Box 332, Van Buren 72956 (Res.)	474-1340
O8G	McHattie, Tom J.	Post Office Box 1517, Van Buren 72956	474-3424
GP	Sasser, L. Gordon, III	Post Office Box 478, Alma 72921	632-3855
GP	Shearer, F. E.	Post Office Box 458, Alma 72921	474-9539
FP	Sills, David B.	Post Office Box 16, Mountaiburg 72946	369-2091
FP	Travis, A. Lawrence	Post Office Box 359, Van Buren 72956	474-6832
PD	Yeager, Thomas D.	Crawford County Medical Hospital, Van Buren 72956	474-7068

CRITTENDEN COUNTY

GYN	Arnold, Sidney W.	228 Tyler, West Memphis 72301	735-0836
FP	Croom, D. Wayne	Post Office Box 1596, West Memphis 72301	735-3842
IM	Datzman, Marilyn	228 Tyler, West Memphis 72301	735-0833
GP	Deneke, Milton D.	Post Office Box 687, West Memphis 72301	735-1170
O8G	Ferguson, T. Murray	200 South Rhodes, West Memphis 72301	735-2150
O8G	Ford, Robert C., Jr.	200 South Rhodes, West Memphis 72301	735-2150
FP	Hamilton, Ralph B.	300 South Rhodes, West Memphis 72301	735-1170
IM	Herring, William T.	228 Tyler, West Memphis 72301	735-6803
OTO	Hodges, John M.	176 South Bellevue, Suite 601, Memphis, Tennessee 38104	901-726-5874
GS	Jay, Gilbert D., III	200 South Rhodes, West Memphis 72301	735-4612
OPH	Kennedy, Keith B.	316 Tyler, West Memphis 72301	735-7680
FP	KlutZ, Joseph	228 Tyler, West Memphis 72301	735-0833
GS	Lanford, H. G.	308 South Rhodes, West Memphis 72301	735-3664
ORS	L'Heureux, Guy J.	228 Tyler, West Memphis 72301	732-3836
FP	Lubin, Milton	200 South Rhodes, West Memphis 72301	735-3919
IM	Murfin, Wesley W.	228 Tyler, West Memphis 72301	735-0833
IM	Nadeau, Kenneth R.	228 Tyler, West Memphis 72301	735-0833
IM	Peebles, Chester W., Jr.	228 Tyler, West Memphis 72301	735-1973
OTO	Pettit, Paul	228 Tyler, West Memphis 72301	735-7603
	Price, Joel A.	Germantown, Tennessee	
GS	Schoettle, Glenn P., Sr.	308 South Rhodes, West Memphis 72301	735-3664
FP	Shrader, Floyd R.	200 South Rhodes, West Memphis 72301	735-3945
GP	Smith, Bedford W.	300 South Rhodes, West Memphis 72301	735-1170
IM	Taylor, C. Herbert, Jr.	228 Tyler, West Memphis 72301	735-2069
R	Utley, L. Thomas	200 Tyler, West Memphis 72301	735-1500
IM	Webb, Dan	228 Tyler, West Memphis 72301	735-1973
O8G	Westbrook, H. Wade	228 Tylr, West Memphis 72301	732-2531
FP	Wright, William J.	210 Shoppingway, Suite A, West Memphis 72301	735-8751
O8G	Zschappel, Robert H.	200 South Rhodes, West Memphis 72301	735-2150

CROSS COUNTY

GP	Beaton, Kenneth E.	Post Office Box 158, Wynne 72396	238-2321
FP	Bethell, Robert D.	Post Office Box 158, Wynne 72396	238-2321
FP	Bui, Don V.	Post Office Box 725, Parkin 72373	755-5442
FP	Burks, Willard G.	Post Office Box 158, Wynne 72396	238-2321
GP	Crain, Vance J.	Post Office Box 158, Wynne 72396	238-2321
#	Hayes, Robert A.	Wynne	
FP	Jacobs, James R.	411 South Falls Boulevard, Wynne 72396	238-3261
FP	Young, John H.	411 South Falls Boulevard, Wynne 72396	238-3261

DALLAS COUNTY

FP	Delamore, John H.	Post Office Box 351, Fordyce 71742	352-7117
FP	Howard, Don G.	110 North Clifton, Fordyce 71742	352-3151
FP	Nutt, Hugh A.	110 North Clifton, Fordyce 71742	352-5144
GP	Taylor, George D.	Post Office Box 36, Sparkman 71763	678-2406

DESHA COUNTY

GP	Harris, Howard R.	207 South Elm, Dumas 71639	382-4425
FP	Hoagland, R. A.	145 West Waterman, Dumas 71639	382-4878
FP	Money, William L.	207 South Elm, Dumas 71639	382-4425
GP	Moss, Swan B.	Post Office Box 652, McGehee 71654	222-3141
FP	Prosser, Robert L., III	Post Office Box 707, McGehee 71654	222-6131
FP	Robinson, Guy U.	207 South Elm, Dumas 71639	382-4425
GP	Turney, Lonnie R.	101 South 3rd, McGehee 71654	222-4044
FP	Young, James E.	Post Office Box 707, McGehee 71654	222-6131

DREW COUNTY

PD	Austin, L. K.	711 H. L. Ross Drive, Monticello 71655	367-6832
GP	Binns, Van C.	304 East Trotter, Monticello 71655 (Res.)	367-3531
GP	Busby, A. K.	733 Roberts Drive, Monticello 71655	367-3246
FP	David, Andrew E.	750 H. L. Ross Drive, Monticello 71655	367-6231
#	Holder, James B., Jr.	Monticello	
GP	Price, Johnnie P.	232 South Main, Monticello 71655	367-2473
FP	Wallick, Paul A.	906 Roberts Drive, Monticello 71655	367-6867
FP	Wilson, Harold F.	906 Roberts Drive, Monticello 71655	367-6867

Type of Practice	Member's Name	Address	Telephone Number
FAULKNER COUNTY			
RD.	Archer, Charles A., Jr.	411 Western Avenue, Conway 72032 (Res.)	329-3412
FP.	Banister, Bob G.	923 Parkway, Conway 72032	329-3824
AN.	Beasley, Margaret D.	Post Office Box 404, Conway 72032	329-2946
FP.	Beasley, T. O.	919 Locust, Conway 72032	329-2946
ADM.	Benafield, Robert B.	Post Office Box 2181, Little Rock 72203	378-2356
GP.	Daniel, Sam V.	574 Locust, Conway 72032	329-6111
FP.	Dobbs, John C.	Post Office Box 1327, Conway 72032	329-2948
FP.	Doss, John R.	College and Dennison, Conway 72032	329-2946
IM.	Furlow, William C.	Post Office Box 1367, Conway 72032	327-1325
R.	Garrison, James S., Jr.	Conway Memorial Hospital, Conway 72032	329-3831, Ext. 185
FP.	Gordy, Fred, Jr.	552 Locust, Conway 72032	329-6881
OPH.	Hendrickson, Richard O., Jr.	1504 Caldwell, Conway 72032	327-4444
OPH.	Magie, J. J.	1504 Caldwell, Conway 72032	327-4444
OBG.	McChristian, Paul L.	2519 College Avenue, Conway 72032	327-6547
FP.	Ross, Rex W.	Post Office Box 1327, Conway 72032	329-2948
FP.	Smith, John D.	923 Parkway, Conway 72032	329-3824
GP.	Smith, Lander A.	923 Parkway, Conway 72032	329-3824
FP.	White, Tommie G.	Post Office Box 1386, Conway 72032	329-2946
FRANKLIN COUNTY			
GP.	Calaway, Robert L.	Post Office Box C, Mulberry 72947	997-1484
FP.	Gibbons, David L.	Post Office Box 136, Ozark 72949	667-4165
PD.	Jeffers, Robert G.	Post Office Box 1057, Ozark 72949	667-4021
IM.	Jefferson, Christina	Post Office Box 1057, Ozark 72949	667-4021
PD.	Jefferson, Thomas C.	Post Office Box 1057, Ozark 72949	667-4021
ADM.	Long, C. C.	Post Office Box 1208, Fort Smith 72902	782-8218
GS.	Smith, John C.	Post Office Box 1057, Ozark 72949	667-4021
GARLAND COUNTY			
IM.	Adams, Frank M.	236 Central, Hot Springs 71901	623-8751
#.	Arnold, W. O.	Hot Springs	
U.	Aspell, Robert W.	304 St. Louis Place, Hot Springs 71901	321-9013
OTO.	Atkinson, Robert H.	303 Central Tower Building, Hot Springs 71901	623-6101
IM.	Bodemann, Michael C.	615 West Grand, Hot Springs 71901	623-2781
R.	Bohnen, Loren O.	911 West Grand, Hot Springs 71913	623-6693
IM.	Bond, John B., Jr.	505 West Grand, Hot Springs 71901	624-5697
OTO.	Borg, Robert V.	100 Ridgeway Place, Suite 2, Hot Springs 71901	624-5422
OPH.	Bracken, Ronald J.	505 West Grand, Hot Springs 71901	624-4478
OPH.	Braley, Richard E.	312 St. Louis Street, Hot Springs 71901	624-1196
GS.	Brunner, John H.	101 Whittington, Hot Springs 71901	321-2229
U.	Burrow, Thomas E.	903 West Grand, Hot Springs 71913	623-8110
RD.	Burton, Frank M.	2300 Central, Hot Springs 71901 (Res.)	623-8323
U.	Burton, James F.	101 Whittington, Hot Springs 71901	321-2229
GS.	Campbell, James W.	236 Central, #1400, Hot Springs 71901	624-5700
D.	Cates, Jack A.	100 Ridgeway Place, Suite 5, Hot Springs 71901	624-3376
GS.	Chamberlain, Joe W.	330 Sixth, Hot Springs 71901	623-4477
GS.	Chamberlain, Warren W.	330 Sixth, Hot Springs 71901	623-4477
RHU.	Clardy, Edgar K.	604 Central Tower Building, Hot Springs 71901	623-9684
GP.	Clark, Robert B.	1705 Central, Hot Springs 71901	623-8341
RD.	Daniel, R. L.	125 Carl Drive, #58, Hot Springs 71913 (Res.)	623-9753
IM.	Dembinski, T. Henry	804 1/2 Central, Hot Springs 71901	623-9781
OPH.	Dodson, John W.	37 Circle Drive, Hot Springs 71901 (Res.)	623-1025
GE.	Dunn, Richard W.	236 Central, #405, Hot Springs 71901	623-4898
GS.	Dupont, J. Benton	101 Whittington, Hot Springs 71901	321-2229
ORS.	Durham, Thomas M.	505 West Grand, Hot Springs 71901	623-7717
RD.	Edwards, Gwilym A.	1 Maoda Lane, Hot Springs Village 71909 (Res.)	922-0552
GS.	Eisele, W. Martin	101 Whittington, Hot Springs 71901	321-2229
OBG.	Finan, E. Michael	Post Office Box 2067, Hot Springs 71901	623-6628
R.	Fore, Robert W.	911 West Grand, Hot Springs 71913	623-6693
GP.	Fotioo, George J.	505 Central Tower Building, Hot Springs 71901	623-5121
GS.	French, James H.	101 Whittington, Hot Springs 71901	321-2229
FP.	Gardial, J. Richard	125 Greenwood, Hot Springs 71901	623-3373
FP.	Gardner, James L.	125 Greenwood, Hot Springs 71901	623-0904
RD.	Garner, Onyx P.	Post Office Box 428, Lake Hamilton 71951	525-8752
FP.	Graham, Richard F.	505 West Grand, Hot Springs 71901	623-4391
OTO.	Griffin, James E.	100 Ridgeway, Hot Springs 71901	624-5422
OBG.	Haggard, John L.	101 Whittington, Hot Springs 71901	321-2229
OTO.	Harper, Edwin L.	100 Ridgeway, Hot Springs 71901	624-5422
#.	Hebert, Gaston A.	Hot Springs	
GS.	Hill, Robert L.	905 West Grand, Hot Springs 71913	623-9581
FP.	Hollis, Thomas H.	125 Greenwood, Hot Springs 71901	623-3373
D.	Irwin, William G.	Post Office Box 2588, Hot Springs 71901	321-9455
P.	Jackson, George W.	901 West Grand, Hot Springs 71913	623-3502
GYN.	Jackson, Haynes G.	Post Office Box 2067, Hot Springs 71901	623-6628
OBG.	Jackson, Haynes G., Jr.	Post Office Box 2067, Hot Springs 71901	623-6628
CD.	Jayaraman, K. K.	2513 Malvern Avenue, Hot Springs 71901	321-2513
PTH.	Jayaraman, Vilasini D.	Post Office Box 1460, Hot Springs 71901	623-2518
OPH.	Johnston, Gaither C.	99 Little Pine, Hot Springs 71901	624-7106
FP.	Jumper, Mark W.	1705 Central, Hot Springs 71901	623-8341
GS.	Kaler, Ron A.	905 West Grand, Hot Springs 71913	623-9581
GP.	Keadle, William R.	Post Office Box P, Glenwood 71943	356-3155
OBG.	Kimberlin, G. Dan	101 Whittington, Hot Springs 71901	321-2229
ORS.	Kincheloe, A. Dale	211 Hobson, Hot Springs 71901	321-2663
RD.	King, Leeman H.	410 Ramble, Hot Springs 71901 (Res.)	623-8185
AN.	Klugh, Walter G., Jr.	300 St. Louis Place, #306, Hot Springs 71913	623-9216
	Knight, Patrick L.	Garland Texas	
FP.	Koehn, Martin A.	328 Ouagaw, Hot Springs 71901	321-9292
IM.	Lang, Patricia A.	DeSoto Center, Hot Springs Village 71909	922-0575
PTH.	Lee, W. R.	Post Office Box 1460, Hot Springs 71901	623-2518
GP.	Lovell, Clarence R.	414 Albert Pike, Hot Springs 71913	624-1211
IM.	Maruthur, Gopakumar	905 Central Tower Building, Hot Springs 71901	623-1545
IM.	Mashburn, William R.	99 Little Pine, Hot Springs 71901	623-4453
GS.	Meek, Gary N.	905 West Grand, Hot Springs 71913	623-9581
R.	Munos, Louis R.	911 West Grand, Hot Springs 71913	623-6693
ORS.	Murray, DuBose	505 West Grand, Hot Springs 71901	623-7717
ORS.	McConkie, Stuart B.	715 West Grand, Hot Springs 71901	623-5300
GYN.	McCrary, Robert F.	505 West Grand, Hot Springs 71901	321-2217
NEP.	McCrary, Robert F., Jr.	236 Central, Hot Springs 71901	321-9803
PD.	McFarland, Louis R.	211 Hobson, Hot Springs 71901	321-1314
GP.	McMahan, J. C.	304 Albert Pike, Hot Springs 71901	624-2111
PD.	Newton, D. M.	234 Woodbine, Hot Springs 71901	321-2546
C.	Pai, B. V.	2513 Malvern Avenue, Hot Springs 71901	321-2513
OBG.	Pappas, Deno P.	101 Whittington, Hot Springs 71901	321-2229
GP.	Parkerson, Carl R.	200 Woodbine, Hot Springs 71901	624-3379
GP.	Parkerson, Cecil W.	1421 Central, Hot Springs 71901	624-3341

Type of Practice	Member's Name	Address	Telephone Number
#	Patterson, Ralph M.	Hot Springs	
AN	Peeples, Raymond E.	Route 19, Box 254, Hot Springs 71901 (Res.)	262-3346
PTH	Pemmaraju, Seshagirirao	Post Office Box 1460, Hot Springs 71901	623-2518
GP	Power, Allyn R.	236 Central, Hot Springs 71901	623-3102
O8G	Rainwater, W. S.	101 Whittington, Hot Springs 71901	321-2229
PD	Robert, Jon M.	236 Woodbine, Hot Springs 71901	321-2546
RHU	Robertson, Fred T.	Post Office Box 850, Hot Springs 71901	624-1281
PM	Rosenzweig, Joseph L.	Post Office Box 1358, Hot Springs 71901	624-4411
GS	Sammons, Vernon E., Jr.	905 West Grand, Hot Springs 71913	623-9581
RD	Sanders, Hallman E.	220 Bafanridge, Hot Springs 71901 (Res.)	624-2869
GP	Seifert, Kenneth A.	8 DeSoto Center, Hot Springs Village 71909	922-0540
FP	Simpson, John B.	328 Quapaw, Hot Springs 71901	321-9292
R	Springer, Melvin R., Jr.	911 West Grand, Hot Springs 71913	623-6693
R	Springer, William Y.	911 West Grand, Hot Springs 71913	623-6693
FP	Stecker, Elton H.	1315 Central, Hot Springs 71901	624-5206
FP	Stecker, Rheeta M.	1315 Central, Hot Springs 71901	624-5206
#	Stough, D. 8.	Hot Springs	
D	Stough, Dowling 8., III	99 Little Pine, Hot Springs 71901	624-0673
OPH	Thomas, Al	Post Office Drawer D, Hot Springs 71901	624-1204
O8G	Thompson, Thomas P., Jr.	101 Whittington, Hot Springs 71901	321-2229
PD	Trieschmann, John W.	Post Office Box 2458, Hot Springs 71901	321-2546
RD	Wade, H. King, Jr.	118 Trivista Right, Hot Springs 71901 (Res.)	323-9426
OPH	Wallace, Thomas R.	505 West Grand, Hot Springs 71901	624-0609
P	Watermann, Eugene	105 Leah Circle, Hot Springs 71901	623-6179
NS	Williams, Paul C.	225 Linden, Suite 2, Hot Springs 71901	623-8060
PM	Wise, W. Paul	Post Office Box 1358, Hot Springs 71901	922-1045
U	Woodward, Philip A.	903 West Grand, Hot Springs 71913	623-8110
OM	Wright, Jack	Post Office Box 128, Malvern 72104	844-4331

GRANT COUNTY

GP	Irvin, Jack M.	205 West High, Sheridan 72150	942-3171
FP	Paulk, Clyde D.	Post Office Box 307, Sheridan 72150	942-5155

GREENE-CLAY COUNTY

GP	Baker, Augustus J.	Post Office Box 339, Paragould 72450 (Res.)	236-3486
GP	Baker, Clark M.	115 West Court, Paragould 72450	236-6356
PTH	Boggs, Dwight F.	#1 Medical Drive, Paragould 72450	239-4046
FP	Bonner, J. Darrell	1015 West Kingshighway, Paragould 72450	239-4076
GP	Collier, George H.	Post Office Box 361, Paragould 72450	236-6911
FP	Collier, Jon D.	#5 Market Place, Paragould 72450	236-6911
GP	Crow, Asa A.	#1 Medical Drive, Paragould 72450	239-8504
FP	Duckworth, H. R.	425 West Jackson, Piggott 72454	598-2237
GP	Futrell, J. 8.	414 West 2nd, Rector 72461	595-3332
OPH	Hardcastle, R. Lowell	#1 Medical Drive, Paragould 72450	236-6948
GP	Harper, Bland R.	Post Office Box C, Monette 72447 (Res.)	486-2131
ORS	Hazzard, Marion P.	#1 Medical Drive, Paragould 72450	236-6996
FP	Hobby, George A.	#1 Medical Drive, Paragould 72450	239-8579
GS	Lawson, J. Larry	#1 Medical Drive, Paragould 72450	239-5916
AN	Martin, Richard O.	Post Office Box 339, Paragould 72450	239-7194
GP	Mitchell, Bennie E.	901 West Kingshighway, Paragould 72450	239-8576
FP	Muse, Jerry L.	425 West Jackson, Piggott 72454	598-2237
RD	McKelvey, Earle D.	319 Grandview, Clarksville 72830 (Res.)	754-2382
GP	Page, Billie C.	#1 Medical Drive, Paragould 72450	236-6930
FP	Price, Robert E.	130 South 14th, Paragould 72450	239-8549
R	Purcell, Donald I.	Post Office Box 339, Paragould 72450	239-8431
PTH	Richmond, Jack G.	Post Office Box 339, Paragould 72450	236-7733
GS	Sellars, John R.	#1 Medical Drive, Paragould 72450	239-5926
FP	Shedd, Leonus L.	1015 West Kingshighway, Paragould 72450	239-4076
FP	Shotts, Mack	#1 Medical Drive, Paragould 72450	239-8505
PD	Shotts, Vern Ann	1015 West Kingshighway, Paragould 72450	239-4076
FP	Watson, Samuel D.	901 West Kingshighway, Paragould 72450	236-8591
IM	White, Robert 8.	#1 Medical Drive, Paragould 72450	239-9549
FP	Williams, Jacob M.	1015 West Kingshighway, Paragould 72450	239-4076

HEMPSTEAD COUNTY

GP	Branch, James W., Sr.	426 South Main, Hope 71801	777-4636
PTH	Dodd, N. Leland	Post Office Box 1118, Hope 71801	777-9324
O8G	Garrett George C., Jr.	405 West 16th, Hope 71801	777-6722
GP	Harris, C. Lynn	Post Office Box 1409, Texarkana 75504	214-792-7151
GP	Harris, Lowell O.	Post Office Box 550, Hope 71801	777-2131
FP	Holt, Forney G.	300 East Sixth, Texarkana 75502	774-3211
GS	Martindale, James G.	Post Office Box 861, Hope 71801	777-3464
GP	McKenzie, Jim	Post Office Box 687, Hope 71801	777-2321
R	Stevens, David G.	Post Office Box 460, Hope 71801	777-2323
FP	Warmack, Asa M.	601 South Elm, Hope 71801	777-2321
FP	Wright, George H.	405 West 16th, Hope 71801	777-6722

HOT SPRING COUNTY

GP	Brashears, Larry	1234 Main, Malvern 72104	332-5245
FP	Clark, Curtis 8.	294 Summar Street, Jackson, Tennessee 38301	901-423-1935
FP	Cobb, Russell W.	1420 Potts, Malvern 72104	332-3112
GP	Cole, John W.	725 East Page, Malvern 72104	332-5641
AN	Ellis, C. R.	1004 South Main, Malvern 72104	332-6941
GP	Kersh, N. 8.	1518 Mc8ee, Malvern 72104	337-7533
GS	Key, Martin L.	1001 Schneider Drive, Malvern 72104	337-4911
GP	McCray, Raymond V., Sr.	214 East Highland, Malvern 72104	332-2704
FP	Peters, Claude F.	1420 Potts, Malvern 72104	332-2521
FP	Vaughan, John A.	115 East Highland, Malvern 72104	332-2371
FP	White, Robert H.	1004 Dyer, Malvern 72104	332-3664

HOWARD-PIKE COUNTY

GP	Chambers, William H.	Post Office Box 1750, Nashville 71852	845-4041
GS	Hearnsberger, John E.	Post Office Box 88, Nashville 71852	845-1761
GP	Jones, William J.	Post Office Box 49, Glenwood 71943	356-3921
FP	King, Joe D.	Post Office Box 549, Nashville 71852	845-1933
FP	Peebles, Samuel W.	120 West Syper, Nashville 71852	845-4676
#	Smith, U. Lee	Nashville	
GP	Turbeville, J. O.	Post Office Box 434, Murfreesboro 71958	285-2182
GP	Ward, Hiram T.	Post Office Box 319, Murfreesboro 71958	285-2491
FP	White, Phillip L.	Post Office Box 538, Murfreesboro 71958	285-3118
GP	Wilmoth, Marion H.	Post Office Box 804, Nashville 71852	845-4780

Type of Practice	Member's Name	Address	Telephone Number
INDEPENDENCE COUNTY			
FP	Baker, John R.	Post Office Box 2116, Batesville 72501	793-5356
IM	Baxley, Paul J.	Post Office Box 2707, Batesville 72501	793-5221
FP	Beck, Carl T.	Post Office Drawer J, Mountain View 72560	269-3834
R	Bess, Lloyd G.	1490 Byers, Batesville 72501	793-2207
U	Day, Charles H.	Post Office Box 2116, Batesville 72501	698-1808
#	Gray, W. Paul	Batesville	
PTH	Hill, John M., Jr.	1710 Harrison, Batesville 72501	698-1861
OPH	Jones, Edward T.	180 North 5th, Batesville 72501	793-5257
FP	Ketz, Wesley J.	Post Office Box 2695, Batesville 72501	793-2321
RD	Krygier, Albin J.	306 Royal Drive, Horseshoe Bend 72512 (Res.)	670-5865
GS	Lambert, John S.	17th and Harrison, Batesville 72501	698-1846
FP	Lytle, Jim E.	Post Office Box 2116, Batesville 72501	793-6663
GP	Moody, Lackey G.	Post Office Box 2335, Batesville 72501	793-6887
R	McClain, C. M., Jr.	1490 Byers, Batesville 72501	793-2207
GP	Raney, Troy	Post Office Box 83, Cave City 72521	283-5762
FP	Scott, John G.	Post Office Box 2116, Batesville 72501	793-1126
GP	Slaughter, Bob	Post Office Box 2416, Batesville 72501	793-2540
FP	Smith, Bob G.	Post Office Box 2116, Batesville 72501	793-9352
GS	Stalker, James M.	Post Office Box 2575, Batesville 72501	793-5205
GS	Strickland, N. E.	1710 Harrison, Batesville 72501	698-1846
GP	Tatum, Harold M.	Post Office Box D, Melbourne 72556	368-4344
GP	Taylor, Chaney W.	Post Office Box 2116, Batesville 72501	793-5251
GP	Taylor, Charles A.	Post Office Box 2116, Batesville 72501	793-5251
FP	Tucker, Charles L.	Post Office Box 38, Ash Flat 72513	994-7301
AN	Turner, Samuel ^o	3103 Alice Drive, Batesville 72501 (Res.)	698-1363
OBG	Wyatt, Finis Q.	Post Office Box 2116, Batesville 72501	793-5251
JACKSON COUNTY			
IM	Ashley, John D.	2nd and Laurel, Newport 72112	523-6721
GS	Carney, J. W.	Post Office Box 699, Newport 72112	523-3489
IM	Dudley, Guilford M.	1205 McLain, Newport 72112	523-5272
FP	Duke, Fran L.	2nd and Laurel, Newport 72112	523-5344
GS	Frankum, Jerry M., Jr.	Post Office Box 606, Newport 72112	523-6721
GP	Green, Roger L.	Post Office Box 159, Newport 72112	523-6721
RD	Harris, M. Haymond	501 Walnut, Newport 72112 (Res.)	523-5168
OBG	Jackson, Jabez F., Jr.	1205 McLain, Newport 72112	523-3289
RD	Jackson, Jabez F., Sr.	304 Ash, Newport 72112	523-8314
FP	Junkin, A. Bruce	Post Office Box 69, Newport 72112	523-3666
OR5	Lopez, Ramon E.	1205 McLain, Newport 72112	523-2942
GS	Poon, Hon K.	Post Office Box 206, Newport 72112	523-6796
OPH	Stanfield, Wayne	Post Office Box 129, Newport 72112	523-3321
RD	Williams, Thomas E.	12 Park Place, Newport 72112 (Res.)	523-6121
OT	Wright, John C.	1205 McLain, Newport 72112	523-3504
R	Young, Jack S., III	Post Office Box 67, Newport 72112	523-8115
JEFFERSON COUNTY			
RD	Adams, Carl H.	Post Office Box 37, Carthage 71725 (Res.)	254-2441
RD	Anderson, Charles W.	1411 Olive, Pine Bluff 71601 (Res.)	535-1661
FP	Atnip, Gwyn	1111 West 15th, Pine Bluff 71603	535-3551
FP	Bell, Carl H., Jr.	1602 West 42nd, Pine Bluff 71603	535-4850
P	Bishop, Terrell P., Jr.	Post Office Box 1019, Pine Bluff 71613	534-1834
OR5	Blackwell, Banks	Post Office Box 1406, Pine Bluff 71613	534-3122
OBG	Bracy, Calvin M.	1301 West 43rd, Pine Bluff 71603	536-7550
U	Brooks, R. Teryl, Jr.	1801 West 40th, Pine Bluff 71603	536-7758
FP	Bryant, R. Frank	1112 South Linden, Pine Bluff 71603	534-4352
OTO	Buckley, J. Wayne	1408 West 43rd, Pine Bluff 71603	535-5719
P	Burford, Thomas G.	4313 West Markham, Little Rock 72201	664-4500
GE	Butler, Robert C.	1624 West 42nd, Pine Bluff 71603	536-7660
PUD	Campbell, J. C.	1604 West 42nd, Pine Bluff 71603	536-8507
AN	Carlisle, David L.	1410 West 42nd, Pine Bluff 71603	535-5522
P	Carlton, I. L.	2500 Rike Drive, Pine Bluff 71613	534-1834
GP	Cheek, Ben H.	1515 West 42nd, Pine Bluff 71603	541-7189
PTH	Clark, James F., Jr.	1515 West 42nd, Pine Bluff 71603	535-6800
FP	Coker, L. Randle	Post Office Box 276, Star City 71667	628-4292
IM	Crenshaw, John	4201 Mulberry, Pine Bluff 71603	535-2200
#	Cunningham, T. J., Jr.	Pine Bluff	
D	Davis, Charles M.	1416 West 43rd, Pine Bluff 71603	535-7477
P	Dean, Lee A.	Post Office Box 1019, Pine Bluff 71613	534-1834
IM	Dedman, John D.	4201 Mulberry, Pine Bluff 71603	535-2200
CD	Deneke, William A.	1612 West 42nd, Pine Bluff 71603	536-3015
OBG	Devi, Talluri S.	1801 West 40th, Pine Bluff 71603	536-0974
GS	Dickins, Robert D.	1003 Cherry, Pine Bluff 71601	534-8141
R	Fendley, Claude E.	Post Office Box 7863, Pine Bluff 71611	534-8651
R	Fuller, C. J.	Post Office Box 7863, Pine Bluff 71611	534-8651
OPH	Glasscock, Robert E.	1706 Doctors Drive, Pine Bluff 71603	534-4357
PD	Green, Horace L.	1420 West 43rd, Pine Bluff 71603	534-6210
IM	Green, Linda Haynie	1710 Doctors Drive, Pine Bluff 71603	534-6570
ORS	Gullett, Robert R., Jr.	1801 West 40th, Pine Bluff 71603	536-7579
R	Hardin, J. David	Post Office Box 7863, Pine Bluff 71611	535-6800
IM	Harper, William F.	1801 West 40th, Pine Bluff 71603	536-9230
N	Harris, Ruben M.	1720 Doctors Drive, Pine Bluff 71603	536-6600
PD	Hart, J. Clyde, Jr.	1420 West 43rd, Pine Bluff 71603	534-6210
OBG	Hayden, Virgil L.	1706 West 42nd, Pine Bluff 71603	535-8180
R	Hegwood, Henri M.	Post Office Box 7863, Pine Bluff 71611	534-8651
EM	Henderson, Francis M.	1720 Doctors Drive, Pine Bluff 71603	535-0855
PH	Herron, John T.	Post Office Box 7267, Pine Bluff 71611	535-2142
IM	Hoover, S. H.	1708 West 42nd, Pine Bluff 71603	536-7300
OPH	Hughes, L. Milton	1414 West 43rd, Pine Bluff 71603	536-7738
FP	Hussain, Shafiqat	1801 West 40th, Pine Bluff 71603	535-4640
U	Hutchison, Ernest L.	1724 West 42nd, Pine Bluff 71603	535-1562
OBG	Hyman, Carl E.	121 East 4th, Pine Bluff 71601	534-3365
N	Ingram, Thomas E.	1726 Doctors Drive, Pine Bluff 71603	535-4803
GS	Irwin, Raymond A., Jr.	1720 West 42nd, Pine Bluff 71603	535-2100
U	Jacks, David C.	1724 Doctors Drive, Pine Bluff 71603	535-4221
P	James, William Joe	Post Office Box 1019, Pine Bluff 71613	534-1834
CD	Jenkins, B. J.	1612 West 42nd, Pine Bluff 71603	536-3015
AN	Jenkins, Mary Ellen	1410 West 42nd, Pine Bluff 71603	535-5522
GS	Johnson, Horace	2526-R East Hardina, Pine Bluff 71601	534-3910
R	Joseph, Aubrey S.	Post Office Box 7863, Pine Bluff 71611	534-8651
FP	Justiss, Richard D.	1722 West 42nd, Pine Bluff 71603	535-1819
OBG	Kaipa, Siva P.	1708 Doctors Drive, Pine Bluff 71603	535-1025
AN	Khan, Mahmood A.	1410 West 42nd, Pine Bluff 71603	535-5522
OPH	King, Yum Y.	4800 South Hazel, Pine Bluff 71603	536-1897
P	Kumar, Ganesh	Post Office Box 1019, Pine Bluff 71613	534-1834

Type of Practice	Member's Name	Address	Telephone Number
OTO	Langston, Lloyd G.	1408 West 43rd, Pine Bluff 71603	535-5719
GS	Ligon, Ralph E.	1801 West 40th, Pine Bluff 71603	534-4188
FP	Lindsey, James A.	1421 Cherry, Pine Bluff 71601	541-0770
ORS	Lipscomb, Larry G.	1801 West 40th, Pine Bluff 71603	536-7579
D	Lum, Don	4301 Mulberry, Pine Bluff 71603	541-0400
FP	Maynard, Ross E.	303 National Building, Pine Bluff 71601	534-5732
NEP	Mehta, Shyam P.	1600 West 42nd, Pine Bluff 71603	536-6105
GS	Meredith, William R.	1716 West 42nd, Pine Bluff 71603	535-8727
ADM	Miller, Donald L.	1515 West 42nd, Pine Bluff 71603	541-7290
R	Milligan, Monte C.	Post Office Box 7863, Pine Bluff 71611	534-8651
IM	Monroe, Sanford C.	4201 Mulberry, Pine Bluff 71603	535-2200
FP	Morris, Harold J.	1030 Poplar, Pine Bluff 71601	534-0822
R	McDonald, Robert L.	Post Office Box 7863, Pine Bluff 71611	534-8651
OPH	McFarland, Mike S.	1801 West 40th, Pine Bluff 71603	536-4100
PD	McKinney, Daniel C.	1420 West 43rd, Pine Bluff 71603	534-6210
OPH	Nixon, William R.	709 West Sixth, Pine Bluff 71601	534-2624
IM	Nuckolls, John W.	1801 West 40th, Pine Bluff 71603	541-0222
#	Payne, Virgil L.	Pine Bluff	
CD	Pearce, Malcolm B.	1612 West 42nd, Pine Bluff 71603	536-3015
FP	Perry, V. Bryan	1722 West 42nd, Pine Bluff 71603	535-4141
GYN	Pierce, J. R., Jr.	1712 West 42nd, Pine Bluff 71603	535-3443
FP	Ramsey, David M., III	1421 Cherry, Pine Bluff 71601	541-0770
FP	Raney, Oliver C.	1720 West 42nd, Pine Bluff 71603	534-5861
OR	Reed, E. Frank	916 Cherry, Pine Bluff 71601	535-0121
PD	Reid, Lloyene B.	1420 West 43rd, Pine Bluff 71603	534-6210
GS	Rittelmeyer, Clarence M.	1716 West 42nd, Pine Bluff 71603	535-8727
ORG	Roaf, Sterling A.	1310 Linden, Pine Bluff 71603	536-4602
GS	Roberson, George V.	1801 West 40th, Pine Bluff 71603	535-2716
N	Roberts, Dave	1726 Doctors Drive, Pine Bluff 71603	535-4803
GP	Robinette, Joseph S.	1718 Doctors Drive, Pine Bluff 71603	535-2372
GE	Rogers, Henry L.	1624 West 42nd, Pine Bluff 71603	536-7660
OBG	Ross, Robert L.	1702 West 42nd, Pine Bluff 71603	534-8993
#	Russell, Allen R.	Pine Bluff	
AN	Samuel, Ferdinand K.	Post Office Box 1272, Pine Bluff 71613	535-7457
GYN	Simmons, Calvin R.	1714 West 42nd, Pine Bluff 71603	535-3213
NS	Simpson, P. B., Jr.	1801 West 40th, Pine Bluff 71603	536-8547
FD	Smith, Paul L.	Post Office Box 1648, Pine Bluff 71613	536-4566
GS	Smith, Robert J.	817 Cherry, Pine Bluff 71601	535-1880
RD	Stern, Howard S.	2404 West 47th Avenue, Pine Bluff 71603 (Res.)	534-8281
GS	Sullenberger, A. G.	1726 West 42nd, Pine Bluff 71603	534-4407
PTH	Tisdale, Alfred D.	1515 West 42nd, Pine Bluff 71603	541-7100
PD	Townsend, Thomas E.	1420 West 43rd, Pine Bluff 71603	534-6210
IM	Tracy, C. C.	4201 Mulberry, Pine Bluff 71603	535-2200
FP	Waheed, Atiya N.	1608 West 42nd, Pine Bluff 71603	536-9700
GS	Wilkins, W. J., Jr.	1220 West 42nd, Pine Bluff 71603	535-2100
IM	Wineland, Herbert L.	1710 West 42nd, Pine Bluff 71603	534-3561
A	Worrell, Aubrey M., Jr.	3900 Hickory, Pine Bluff 71603	535-8200
FP	Yalamanchili, R. R.	1421 Cherry, Pine Bluff 71601	541-0770
CHP	Young, Lloyd	Post Office Box 1019, Pine Bluff 71613	534-1B34

JOHNSON COUNTY

FP	Fraser, Robert E.	Post Office Box 668, Clarksville 72830	754-8384
FP	McAuley, John R.	Post Office Box 668, Clarksville 72830	754-8384
GS	McKelvey, Richard E.	Post Office Box 440, Clarksville 72830	754-6510
FP	Patterson, Jack T.	Post Office Box 668, Clarksville 72830	754-8384
FP	Pennington, Donald H.	Post Office Box 668, Clarksville 72830	754-8384
GP	Shrigley, Guy P.	Post Office Box 70, Clarksville 72830	754-2043
GP	Taylor, George	Post Office Box 668, Clarksville 72830	754-8384
GP	West, Boyce W.	Post Office Box 220, Clarksville 72830	754-6661

LAFAYETTE COUNTY

GP	Ditsch, Craig E.	Post Office Box 276, Stamps 71860	533-4461
RD	Lee, Willie J.	3104 Crestridge, Texarkana 75503 (Res.)	214-793-2815

LAWRENCE COUNTY

GP	Cruse, Edward J.	Post Office Box 116, Black Rock 72415	878-6209
RD	Dickey, Albert B.	704 Northwest 3rd, Walnut Ridge 72476 (Res.)	886-5377
GP	Elders, John B.	321 Southwest 3rd, Walnut Ridge 72476	886-3162
FP	Hughes, Joe E.	Post Office Box 150, Walnut Ridge 72476	886-3543
IM	Joseph, Ralph F.	Post Office Box 109, Walnut Ridge 72476	886-3211
FP	Lancaster, Ted S.	Post Office Box 719, Walnut Ridge 72476	886-3543
R	Smoot, John D.	Post Office Box 934, Jonesboro 72401	886-6611
FP	Spades, S. A.	Post Office Box 719, Walnut Ridge 72476	886-3543
GS	Wilson, Stephen K.	Post Office Box 591, Walnut Ridge 72476	886-3543

LEE COUNTY

GP	Fields, E. C.	77 West Main, Marianna 72360	295-5244
FP	Gray, Dwight W.	110 West Chestnut, Marianna 72360	295-3131
GP	Ly, Duong Ngoc	77 West Main, Marianna 72360	295-2543
#	McLendon, Mac	Marianna	
GP	Waddy, Leon M., Jr.	530 West Atkins Boulevard, Marianna 72360	295-5225

LITTLE RIVER COUNTY

FP	Armstrong, James D.	Post Office Box 637, Ashdown 71822	898-3306
IM	Gillean, John A., III	Post Office Box 818, Ashdown 71822	898-5036
GP	Gillean, Myra M.	Post Office Box 818, Ashdown 71822	898-5036
RD	Peacock, Norman W., Jr.	Route 2, Ashdown 71822 (Res.)	898-3353
FP	Shelton, Joe G., Jr.	Post Office Box 697, Ashdown 71822	898-3306

LOGAN COUNTY

PD	Asad, Younis A.	#9 Laurel Plaza, Conway 72032	327-8067
FP	Daniel, William R.	Post Office Box 110, Booneville 72927	675-2455
FP	Enns, Wayne P.	Post Office Box 625, Paris 72855	963-2132
GP	Harbison, James D.	Post Office Box 327, Booneville 72927	675-2121, Ext. 242
FP	Roberts, William J.	Post Office Box 110, Booneville 72927	675-2455
GP	Smith, James T.	Post Office Box 286, Paris 72855	963-2191
GP	Ulrich, Guy	Post Office Box 626, Paris 72855	963-6181

Type of Practice	Member's Name	Address	Telephone Number
LONOKE COUNTY			
FP	Abrams, Joe A.	Post Office Box 993, Cabot 72023.	843-6528
FP	Braswell, Tommy R.	Post Office Box 40, England 72046.	842-2553
FP	Camp, Arthur W.	Post Office Box 547, Hazen 72064.	255-3321
GP	Gartman, Joseph F.	Post Office Box 450, Carlisle 72024.	552-3940
GP	Harris, Willie R.	Post Office Box 40, England 72046.	842-2553
GP	Holmes, B. E.	305 West Front, Lonoke 72086.	676-6560
FP	Inman, Fred C., Jr.	Post Office Box K, Carlisle 72024.	552-7575
OM	Kimsey, Warren H.	Remington Arms Company, Lonoke 72086.	676-3161
CD	Schumann, Gerald M.	Post Office Drawer A, Des Arc 72040.	256-4312
GP	Shefa, Zia.	Post Office Box 182, Lonoke 72086.	676-5106
GP	Washburn, C. Yulan	Route 1, Box 877, Ward 72176 (Res.)	843-3335
MILLER COUNTY			
R	Andrews, A. E.	Post Office Box 689, Texarkana 75501.	774-2121
GS	Barnes, Walter C.	300 East Sixth, Texarkana 75502.	774-3211
NS	Bohmfalk, George L.	1001 Main, Texarkana 75501.	214-794-4196
GS	Bransford, Robert M.	300 East Sixth, Texarkana 75502.	774-3211
PD	Burnett, James W.	414 Hazel, Texarkana 75502.	774-7301
PD	Burroughs, James C.	300 East Sixth, Texarkana 75502.	774-3211
	Chappell, Robert H.	Tulsa, Oklahoma	
GP	Dildy, Edwin V.	Post Office Box 1409, Texarkana 75501.	214-792-7151
OBG	Druff, Gerald H.	300 East Sixth, Texarkana 75502.	774-3211
GS	Duncan, Donald L.	300 East Sixth, Texarkana 75502.	774-3211
ORS	Green, Barry M.	1423 Main, Texarkana 75501.	214-794-3661
PD	Hall, Jon D.	300 East Sixth, Texarkana 75502.	774-3211
GS	Harrell, William B., Jr.	Post Office Box 2078, Texarkana 75501.	214-792-8231
OBG	Harrison, Jack W.	300 East Sixth, Texarkana 75502.	774-3211
GYN	Harrison, James W.	300 East Sixth, Texarkana 75502.	774-3211
GE	Hughes, Keith	300 East Sixth, Texarkana 75502.	774-3211
RD	Hughes, Paul	3935 Texas Boulevard, Texarkana 75503 (Res.)	214-793-3385
IM	Hutcheson, Fred A., Jr.	300 East Sixth, Texarkana 75502.	774-3211
GYN	Jones, John Walter	300 East Sixth, Texarkana 75502.	774-3211
PTH	Joyce, Frederick E.	Post Office Box 2763, Texarkana 75504.	774-2121
GS	Kemp, K. H.	408 Hazel, Texarkana 75502.	774-5181
FP	Kittrell, James B.	1001 Main, Texarkana 75501.	214-794-6107
RD	Laws, J. K.	2105 Garland, Texarkana 75502 (Res.)	772-1209
D	Loe, Arlis W.	Post Office Box 1409, Texarkana 75504.	214-792-7151
PD	Meredith, Paul D.	Post Office Box 1409, Texarkana 75504.	214-792-7151
R	McGinnis, Robert S., Sr.	Post Office Box 1409, Texarkana 75504.	214-792-7151
OPH	Rana, Jayant B.	1411 College Drive, Texarkana 75503.	214-792-3729
IM	Rodgers, Nathaniel L.	300 East Sixth, Texarkana 75502.	774-3211
U	Rountree, Glen A.	300 East Sixth, Texarkana 75502.	774-3211
R	Royal, Jack L.	300 East Sixth, Texarkana 75502.	774-3211
FP	Short, Harold H.	1400 College Drive, Texarkana 75503.	214-793-5671
GP	Stringfellow, Jerry B.	1205 East 35th, Texarkana 75501.	773-6745
RD	Teasley, Gerald H.	1317 Rio Grande, Texarkana 75503 (Res.)	214-794-5245
GS	Tompkins, William C., Jr.	300 East Sixth, Texarkana 75502.	774-3211
	Wilhelm, Frieda	Dallas, Texas	
GS	Wren, Herbert B.	Post Office Box 1409, Texarkana 75504.	214-792-7151
U	Yarbrough, Charles P.	1102 Main, Texarkana 75501.	214-793-5608
GS	Young, Mitchell	1406 College Drive, Texarkana 75503.	214-792-8264
MISSISSIPPI COUNTY			
OPH	Aviner, Zvi	10th and Highland, Blytheville 72315.	763-2648
OBG	Bell, Mary C.	527 North 6th, Blytheville 72315.	763-8890
FP	Biggerstaff, Jerry R.	608 West Lee, Osceola 72370.	563-3576
IM	Brock, Charles C., Jr.	605 North Second, Blytheville 72315.	763-1520
U	Campbell, C. E., Jr.	609 Fulton, Blytheville 72315.	763-0855
FP	Cole, C. R.	519 North Sixth, Blytheville 72315.	763-1554
GP	Cook, Joel P.	Post Office Box 626, Osceola 72370.	563-3033
FP	Cullom, S. Reggie	608 West Lee, Osceola 72370.	563-2608
GP	Elliott, John Q.	Post Office Box 747, Blytheville 72315.	763-4548
FP	Fairley, Eldon	Post Office Box 68, Osceola 72370.	563-6568
#	Fairley, Julian R.	Osceola	
GS	Fergus, R. Scott	Professional Building, Osceola 72370.	563-3248
R	Gratz, John F., Jr.	Osceola Memorial Hospital, Osceola 72370.	563-7157
GP	Green, W. O., Jr.	Post Office Box 268, Blytheville 72315.	763-6802
PTH	Hart, Sybil	Post Office Box 312, Blytheville 72315.	762-3346
R	Hart, Wade A.	Post Office Box 312, Blytheville 72315.	762-3342
GP	Holcomb, C. E.	511 North Sixth, Blytheville 72315.	763-3922
GP	Hubener, L. L.	509 Hutson, Blytheville 72315.	762-2021
	Hubener, Louis F.	Gainesville, Florida	
IM	Jones, Herbert	Post Office Box 321, Blytheville 72315.	763-8032
IM	Jones, Joseph V.	605 North Second, Blytheville 72315.	763-1520
RD	Massey, Lorenzo D.	4367 East Mallory, Memphis, Tennessee 38117.	901-761-9057
FP	Osborne, Merrill J.	1533 North 10th, Blytheville 72315.	762-5360
GP	Pollock, George D.	608 West Lee, Osceola 72370.	563-3576
FP	Rhodes, R. F.	608 West Lee, Osceola 72370.	563-2608
GP	Rodman, Tasker N.	Post Office Box 260, Leachville 72438.	539-6337
GS	Sellers, Kenneth D.	10th and Highland, Blytheville 72315.	763-1307
GP	Shaneyfelt, E. A.	14th and McHaney, Blytheville 72315.	763-3288
GS	Sims, Hunter C., Jr.	525 North 10th, Blytheville 72315.	763-0521
OPH	Webb, Jack J.	Post Office Box 547, Blytheville 72315.	762-2131
OBG	Workman, W. Wayne	527 North Sixth, Blytheville 72315.	763-8890
MONROE COUNTY			
FP	David, Neylon C., Jr.	108 West Ash, Brinkley 72021.	734-2212
GP	Miya, Robert T.	106 North New York, Brinkley 72021.	734-4847
GP	Pupsta, Benedict F.	Post Office Box 250, Clarendon 72029.	747-3321
GP	Stone, Herd E.	Post Office Box A, Holly Grove 72069.	462-3393
GP	Walker, Walter L.	Post Office Box 151, Brinkley 72021.	734-3242
FP	Williams, J. P., Jr.	127 South New Orleans, Brinkley 72021.	734-1331
NEVADA COUNTY			
GP	Avery, Charles D.	427 East Sixth, Prescott 71857.	887-2625
GP	Crow, H. Blake	327 East 2nd South, Prescott 71857.	887-3846
RD	Hairston, Glenn G.	327 East 3rd South, Prescott 71857 (Res.)	887-2155
FP	Portis, Richard P.	301 Hale Avenue, Prescott 71857.	887-6651
FP	Russell, James T.	301 Hale Avenue, Prescott 71857.	887-6651
FP	Young, Michael C.	301 Hale Avenue, Prescott 71857.	887-6651

Type of Practice	Member's Name	Address	Telephone Number
OUACHITA COUNTY			
IM	Daniel, W. A.	Post Office Box 757, Camden 71701	836-8101
IM	Dedman, J. L.	415 Hospital Drive, Camden 71701	836-5013
EM	Dobson, Jack T.	2026 Parkwood Lane, Fordyce 71742	352-2488
AN	Ellis, Joseph L.	Post Office Box 126, Camden 71701	836-7144
GS	Fohn, Charles H.	415 Hospital Drive, Camden 71701	836-5013
GP	Guthrie, James.	Post Office Box 757, Camden 71701	836-8101
FP	Hout, Judson N.	Post Office Box 757, Camden 71701	836-8101
GS	Jameson, J. 8.	Post Office Box 994, Camden 71701	836-5088
FP	Kendall, J. R.	Post Office Box 757, Camden 71701	836-8101
FP	Livingston, Billy 8.	225 Jackson, Camden 71701	836-7367
FP	Miller, John H.	Post Office Box 851, Hampton 71744	798-4299
FP	Nunnally, Robert H.	Post Office Box 757, Camden 71701	836-8101
IM	Ozment, L. V.	Post Office Box 757, Camden 71701	836-8101
GYN	Plant, Richard F.	Post Office Box 762, Camden 71701	836-4169
FP	Sanders, Cal R.	Post Office Box 757, Camden 71701	836-8101
R	Thorne, Arthur E.	Post Office Box 797, Camden 71701	836-1221
PHILLIPS COUNTY			
GP	Barrow, John H.	614 Oakland, Helena 72342	338-8622
FP	Bell, L. J. Patrick	626 Poplar, Helena 72342	338-8163
OPH	Berger, A. A.	801 Perry, Helena 72342	338-8781
FP	Capes, Bernard	Post Office Box 2398, West Helena 72390	572-2621
GP	Ellis, William A., Jr.	603 Porter, Helena 72342	338-3037
GS	Elovitz, Maurice J.	Post Office Box 808, Helena 72342	338-7218
GP	Faulkner, Henry N.	513 Porter, Helena 72342	338-7401
GP	Kirkman, C. M. T.	1105 Perry, Helena 72342	338-8712
	Maxwell, J. Watson	Point Clear, Alabama	
FP	Miller, Robert D.	616 Elm, Helena 72342	338-8531
GP	McCarty, Charles P.	513 Porter, Helena 72342	338-7401
GP	McCarty, Gordon E., Jr.	107 Hickory Hill Drive, Helena 72342	338-8377
GP	McDaniel, Marion A.	133 Newman Drive, Helena 72342	338-8308
#	Oldham, H. 8.	West Helena	
GP	Paine, William T.	661 Oakland, Helena 72342	572-6413
PTH	Patton, Francis M.	Post Office Box 788, Helena 72342	338-6411
GP	Pham, Anh N.	Post Office Box 278, Marvell 72366	829-3411
AN	Vasudevan, Kanaka	133-A Newman Drive, Helena 72342	338-6749
U	Vasudevan, P.	133-A Newman Drive, Helena 72342	338-6749
O8G	Whaley, Lance D.	671 Oakland, Helena 72342	572-1094
GP	Wise, James E., Jr.	Post Office Box 66, Marvell 72366	829-2386
POLK COUNTY			
IM	Bell, James P.	608 Hickory, Mena 71953	394-3993
FP	Fried, David D.	Northside Shopping Center, Mena 71953	394-5880
GP	Hefner, David P.	518 Janssen, Mena 71953	394-3550
FP	Redman, Pierre P.	513 Mena, Mena 71953	394-2277
GP	Rogers, Henry N.	600 West 7th, Mena 71953	394-3344
FP	Stephens, Maurice L.	Route 3, Box 324A, Mena 71953	394-6300
GS	Wood, John P.	907 Mena, Mena	394-4221
POPE COUNTY			
FP	Ashcraft, Ted E.	Post Office Box 1597, Russellville 72801	968-7170
OTO	Austin, Nathan F.	2504 West Main, Russellville 72801	968-5261
GS	Bachman, David S.	3105 West Main Place, Russellville 72801	968-2345
O8G	Battles, Larry D.	3105 West Main Place, Russellville 72801	968-2345
U	Bell, Robert A.	2301 West Main, Russellville 72801	968-3323
IM	Berner, Dennis.	3105 West Main Place, Russellville 72801	968-2345
AN	Birum, Patricia J.	Post Office Box 785, Russellville 72801	968-5670
PD	Bost, R. Kingsley	3105 West Main Place, Russellville 72801	968-2345
U	Brown, Charles H.	2301 West Main, Russellville 72801	968-3323
R	Burgess, James G.	Post Office Box 1647, Russellville 72801	968-7930
FP	Carter, James M.	3105 West Main Place, Russellville 72801	968-2345
GS	Crumpler, Joe.	3105 West Main Place, Russellville 72801	968-2345
O8G	Dunn, Donald L.	3105 West Main Place, Russellville 72801	968-2345
D	Galloway, William W.	1602 West Main, Russellville 72801	968-6969
RD	Gavlas, Frank E.	310 North 2nd, Dardanelle 72834 (Res.)	229-3306
IM	Guy, Ronald E.	2504 West Main, Russellville 72801	968-2090
FP	Henry, J. Arnold	3105 West Main Place, Russellville 72801	968-2345
IM	Hill, Donald F.	3105 West Main Place, Russellville 72801	968-2345
ORS	Honghiran, Ted	2504 West Main, Russellville 72801	968-3200
GS	Kimball, G. Howard	1919 West Main, Russellville 72801	968-3611
R	King, John W.	3203 West Main, Russellville 72801	968-7930
GP	King, W. Ernest	3105 West Main Place, Russellville 72801	968-2345
ORS	Kolb, James M., Jr.	305 Skyline Drive, Russellville 72801	968-2124
FP	Lane, W. H., Jr.	Post Office Box 324, Dover 72837	331-2828
OPH	Lawrence, Frank M.	Post Office Box 400, Russellville 72801	968-2242
OPH	Lovell, Richard K.	Post Office Box 1107, Russellville 72801	968-7302
FP	Lowrey, Douglas H.	809 West Main, Russellville 72801	968-2156
OPH	Lyford, Joe H., Jr.	Post Office Box 1107, Russellville 72801	968-7302
GP	Malone, G. E.	Post Office Box 187, Atkins 72823	641-2992
FP	Mauch, E. Jane	3105 West Main Place, Russellville 72801	968-2345
ORS	May, Robert H.	305 Skyline Drive, Russellville 72801	968-7711
FP	Meyer, Kelly H.	Post Office Box 1597, Russellville 72801	968-7170
RD	Millard, Roy I.	1704 West 3rd Court, Russellville 72801 (Res.)	968-2604
OPH	Mobley, Max J.	Post Office Box 400, Russellville 72801	968-2242
RD	McNamara, William L.	Sparks Manor, Fort Smith 72901 (Res.)	785-1441
FP	New, Kenneth O.	3105 West Main Place, Russellville 72801	968-2345
R	Riley, Don	Post Office Box 1647, Russellville 72801	968-7930
PTH	Stolz, Gerald A., Jr.	Post Office Box 925, Russellville 72801	968-6781
FP	Teeter, Stanley D.	3105 West Main Place, Russellville 72801	968-2345
IM	Thurby W. Robert	3105 West Main Place, Russellville 72801	968-2345
FP	Turner, Finley P.	809 West Main, Russellville 72801	968-2156
IM	Wilkins, Charles F., Jr.	3105 West Main Place, Russellville 72801	968-2345
GP	Williams, David M.	809 West Main, Russellville 72801	968-2156
EM	Young, Sandra	1808 West Main, Russellville 72801	968-2841
PULASKI COUNTY			
AN	Abbott, William W.	500 South University, Little Rock 72205	664-4532
IM	Abraham, James H.	10001 Lile Drive, Little Rock 72205	227-8000
NS	Adamez, John H.	750 Medical Towers Building, Little Rock 72205	225-0880
PUD	Adamsen, James S.	890 Medical Towers Building, Little Rock 72205	224-0110
OPH	Alford, T. Dale	5700 West Markham, Little Rock 72205	664-5100
O8G	Allen, Durward 8., Jr.	500 South University, Little Rock 72205	664-4131
O8G	Allen, E. Stewart	1100 North University, Little Rock 72207	664-9191

Type of Practice	Member's Name	Address	Telephone Number
CDS	Allen, John E., Jr.	1050 Medical Towers Building, Little Rock 72205	227-8300
PS	Allen, Thomas H. "Bill"	413 North University, Little Rock 72205	664-0900
IM	Amir, Jacob	10001 Lile Drive, Little Rock 72205	227-8000
FP	Anderson, Leslie F.	1310 North Center, Lonoke 72086	676-5123
PTH	Araoz, Carlos A.	#1 St. Vincent Circle, Little Rock 72205	661-3000
OM	Armstrong, Howard M.	340 Doctors Park Building, Little Rock 72205	227-7888
PD	Arrington, Robert W.	804 Wolfe, Little Rock 72202	661-5905
PTH	Atkinson, William E., Jr.	#1 St. Vincent Circle, Little Rock 72205	661-8542
RD	Ault, Charles C.	#3 Helen Drive, Sherwood 72116 (Res.)	835-1046
RD	Autry, Daniel H.	1900 North Tyler, Little Rock 72207 (Res.)	664-2332
**R	Aydelotte, George A.	4301 West Markham, Little Rock 72201	661-5740
U	Babaian, Richard J.	4301 West Markham, Slot 540, Little Rock 72201	661-5240
GS	Baber, John C.	500 South University, Little Rock 72205	664-2434
P	Backus, Joe T.	12115 Hinson Road, Little Rock 72212	227-0680
OT	Bailey, H. A. Ted, Jr.	1200 Medical Towers Building, Little Rock 72205	227-5050
U	Baker, Glen F.	LaJolla, California	
U	Baker, Johnson J.	500 South University, Little Rock 72205	664-4364
IM	Baker, Susan W.	11215 Hermitage, Little Rock 72211	225-2661
PD	Baldwin, Deane G.	500 South University, Little Rock 72205	664-4044
OBG	Baldwin, Maxwell R.	880 Medical Towers Building, Little Rock 72205	224-5050
FP	Bail, C. William	250 Doctors Park Building, Little Rock 72205	225-1547
FP	Ballard, C. E., Jr.	4202 South University, Little Rock 72204	562-4838
GYN	Barclay, David L.	500 South University, Little Rock 72205	664-8502
GYN	Bard, David S.	4301 West Markham, Little Rock 72201	661-5923
FP	Barg, Charles D.	100 Doctors Park Building, Little Rock 72205	224-5220
CD	Barlow, Brian E.	#1 St. Vincent Circle, Little Rock 72205	664-5860
IM	Barnes, Larry G.	500 South University, Little Rock 72205	666-0244
ORS	Barnett, David C.	110 Doctors Park Building, Little Rock 72205	227-4150
U	Barnett, Troy F.	#1 St. Vincent Circle, Little Rock 72205	664-1762
R	Barnhard, Howard J.	4301 West Markham, Little Rock 72201	661-5740
FP	Barron, Edwin N., Jr.	10121 Rodney Parham, Little Rock 72207	225-9222
OBG	Batres, Francisco	500 South University, Little Rock 72205	664-4131
GS	Bauer, Frank M.	500 South University, Little Rock 72205	664-2245
R	Bearden, James R.	1100 Medical Towers Building, Little Rock 72205	227-5240
OPH	Becquet, N. J.	115 West Sixth, Little Rock 72201	375-4419
FP	Belknap, Melvin L.	1801 Maple, North Little Rock 72114	758-1002
RD	Bennett, Eaton W.	1003 Loretta Lane, Little Rock 72207 (Res.)	225-2478
CD	Bennett, F. Anthony	650 Shackelford Road, Little Rock 72211	224-9001
TS	Berry, Frederick B.	1060 Medical Towers Building, Little Rock 72205	224-3424
EM	Bethell, John P., Jr.	Memorial Hospital, North Little Rock 72114	771-3355
FP	Betton, Harold	1221 Bishop, Little Rock 72202	376-1160
P	Betts, Charles S.	50 Westwind Drive, North Little Rock 72118	771-1927
GS	Bevans, David W., Jr.	406 West Pershing, North Little Rock 72114	758-1620
OTO	Billie, James D.	1200 Medical Towers Building, Little Rock 72205	227-5050
R	Binet, Eugene F.	300 East Roosevelt, Little Rock 72206	372-8361, Ext. 383
D	Biondo, Raymond V.	Post Office Box 921, North Little Rock 72115	758-2588
CD	Bishop, William B.	10001 Lile Drive, Little Rock 72205	227-8000
U	Bissada, Nabil K.	Saudi Arabia	
U	Black, Hal R., Jr.	200 Doctors Park Building, Little Rock 72205	225-9755
GP	Black, H. Thurston	10 Armistead Road, Little Rock 72207 (Res.)	664-4759
GE	Blackshear, Jack L.	650 Medical Towers Building, Little Rock 72205	227-8074
ORS	Blankenship, William F.	1100 North University, Little Rock 72207	664-5720
N	Boellner, Samuel W.	300 Medical Towers Building, Little Rock 72205	227-4750
CD	Boger, James E.	Post Office Box 5600, Little Rock 72215	227-7596
NS	Boop, Warren C., Jr.	4301 West Markham, Slot 507, Little Rock 72201	661-5270
N	Bornhofen, John H.	300 Medical Towers Building, Little Rock 72205	227-4750
PD	Bost, Roger B.	4301 West Markham, Slot 599, Little Rock 72201	661-5260
ORS	Bowker, John H.	12th and Marshall, Little Rock 72201	370-7555
NM	Boyd, Charles M.	4301 West Markham, Little Rock 72201	661-5760
U	Bradburn, Curry B.	200 Doctors Park Building, Little Rock 72205	225-9755
R	Brenner, George H., Jr.	1100 Medical Towers Building, Little Rock 72205	227-2180
RD	Briggs, Barnett P.	2805 Foxcroft Square, #403 Little Rock 72207 (Res.)	225-1203
PD	Briggs, Dale D.	11215 Hermitage Road, Little Rock 72211	225-9038
IM	Brinkley, Roy A.	220 Doctors Park Building, Little Rock 72205	227-6350
OTO	Brizzolara, A. J.	500 South University, Little Rock 72205	664-4381
P	Broach, R. Fred	12115 Hinson Road, Little Rock 72212	227-0680
RD	Brown, Martha M.	Room, 16, Post Office Box 4042, Little Rock 72214 (Res.)	NF
#	Brown, T. Duel	Little Rock	
GE	Browning, Donald G.	409 North University, Little Rock 72205	664-6980
AN	Browning, Stanley K.	1150 Medical Towers Building, Little Rock 72205	227-7590
ADM	Bruce, Thomas A.	4301 West Markham, Little Rock 72201	661-5350
GS	Buchanan, F. R.	500 South University, Little Rock 72205	664-4324
PD	Buchanan, Gilbert A.	500 South University, Little Rock 72205	664-4117
GS	Buchman, Joseph A.	500 South University, Little Rock 72205	664-9116
GS	Buchman, J. K.	500 South University, Little Rock 72205	664-9116
HEM	Bucolo, Anthony P.	500 South University, Little Rock 72205	661-0060
FP	Ruford, Joe Lee	1801 Maple, North Little Rock 72114	758-1002
AN	Bumpas, Joe H.	500 South University, Little Rock 72205	664-4532
PTH	Burger, Robert A.	9400 West 12th, Little Rock 72201	227-2888
TS	Burnett, Hugh F.	990 Medical Towers Building, Little Rock 72205	227-9080
FP	Burrow, Dennis R.	550 Edgewood, Maumelle 72118	851-2170
P	Busby, John V.	12115 Hinson Road, Little Rock 72212	227-0680
RD	Byrd, Lucas M. Jr.	36 Lakeshore Drive, Little Rock 72204 (Res.)	565-6046
IM	Cain, Thomas D.	11215 Hermitage Road, Little Rock 72211	225-2661
OPH	Calcote, Robert A.	2500 McCain Place, North Little Rock 72116	771-1166
GS	Caldwell, Fred T., Jr.	4301 West Markham, Little Rock 72201	661-6173
FP	Calhoon, J. Dale	Post Office Box 805, Jacksonville 72076	982-4551
R	Calhoun, Joseph D.	500 South University, Little Rock 72205	664-3914
TS	Campbell, Gilbert S.	4301 West Markham, Little Rock 72201	661-6177
R	Campbell, James W.	500 South University, Little Rock 72205	664-3914
A	Caplinger, Kelsy J.	11215 Hermitage, Little Rock 72211	224-1156
RD	Carnahan, Robert G.	12460 Rivercrest Drive, Little Rock 72212 (Res.)	224-2274
FP	Carson, Layne E.	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext. 1581
R	Caruthers, Samuel B., Jr.	1100 Medical Towers Building, Little Rock 72205	227-5240
GS	Casali, R. E.	4301 West Markham, Little Rock 72201	661-6184
RD	Cazort, Alan G.	5117 Edgewood, Little Rock 72207 (Res.)	663-3623
ORS	Chakales, Harold H.	405 North University, Little Rock 72205	664-1500
OPH	Chandler, Billy M.	406 West Pershing, North Little Rock 72114	758-1651
FP	Chapman, Jerry C.	Post Office Box 506, Cabot 72023	982-7151
RD	Chapoell, Ewin S.	400 North University, Little Rock 72205 (Res.)	663-4747
FP	Cheairs, David B.	330 Doctors Park Building, Little Rock 72205	227-6363
R	Chisholm, Dan P.	500 South University, Little Rock 72205	664-3915
PD	Choate, Robert B., Jr.	516 West Pershing, North Little Rock 72114	758-1530
U	Christeson, William W.	300 East Roosevelt Road, Little Rock 72206	372-8361
ORS	Christian, John D.	1100 North University, Little Rock 72207	664-7710
FP	Chudy, Amai	1801 Maple, North Little Rock 72114	758-1002
FP	Church, B. L.	Post Office Box 246, North Little Rock 72115	753-1813

Type of Practice	Member's Name	Address	Telephone Number
OBG.	Church, Marion M.	410 West Pershing, North Little Rock 72114	758-1022
AN	Clark, Richard B.	4301 West Markham, Little Rock 72201	661-5000
OPH	Clifton, Ernest C. "Cliff"	516 Scott, Little Rock 72201	374-6338
FP	Cobb, J. S.	North Hills Family Clinic, Sherwood 72116	835-6800
R	Cockrill, H. Howard, Jr.	500 South University, Little Rock 72205	664-3914
OTO	Colclasure, Joe B.	1200 Medical Towers Building, Little Rock 72205	227-5050
OPH	Cook, Raymond C.	601 Scott, Little Rock 72201	375-8273
P	Cooper, Ruth Ann	500 South University, Little Rock 72205	663-6346
GS	Corbell, Carroll E.	500 South University, Little Rock 72205	663-6339
OBG	Cornell, Paul J.	500 South University, Little Rock 72205	664-2277
OPH	Cosgrove, K. W., Jr.	630 Medical Towers Building, Little Rock 72205	224-0400
CRS	Craig, Marion S.	500 South University, Little Rock 72205	666-0106
GYN	Crews, J. Travis	500 South University, Little Rock 72205	664-8505
CRS	Crocker, Charles H.	500 South University, Little Rock 72205	664-1272
OPH	Cross, J. B.	500 South University, Little Rock 72205	666-0126
ORS	Crow, Joe W.	601 North University, Little Rock 72205	666-0144
CDS	Crow, R. Lewis	600 Medical Towers Building, Little Rock 72205	227-9431
#	Cullen, Philip T.	Little Rock	
R	Dalrymple, Glenn V.	1100 Medical Towers Building, Little Rock 72205	227-2180
FP	Daugherty, Joe D.	Post Office Box 336, Jacksonville 72076	982-0576
FP	Daugherty, John L.	Post Office Box 336, Jacksonville 72076	982-0576
GS	Dean, Gilbert O.	1310 Cantrell Road, Little Rock 72202	372-3661
OPH	Deer, Philip J. Jr.	8500 West Markham, Little Rock 72205	224-4701
PD	Dennis, James L.	824 Ridgecrest, Little Rock 72205	663-2447
N	Denson, William D.	2003 Fendley Drive, North Little Rock 72114	753-5462
OTO	Dickins, John R. E.	1200 Medical Towers Building, Little Rock 72205	227-5050
NS	Dickins, Robert D., Jr.	750 Medical Towers Building, Little Rock 72205	225-0880
ORS	Dickson, D. Bud	500 South University, Little Rock 72205	663-4163
FP	Dillard, Daniel C.	4202 South University, Little Rock 72204	562-4838
R	Diner, Wilma C.	4301 West Markham, Slot 556, Little Rock 72201	661-5740
GYN	Dmowski, W. Paul	4301 West Markham, Little Rock 72201	661-5753
R	Dodd, Doayne	1100 Medical Towers Building, Little Rock 72205	227-2180
RD	Dodge, Eva F.	Quanaw Tower Apartments, Little Rock 72202 (Res.)	374-9349
ORS	Dornenburg, Peter R.	#1 St. Vincent Circle, Suite 210, Little Rock 72205	661-0350
P	Douglas, Warren M.	260 Medical Towers Building, Little Rock 72205	224-2447
U	Downs, Ralph A.	#1 St. Vincent Circle, Suite 320, Little Rock 72205	664-1762
AN	Duckett, William D.	500 South University, Little Rock 72205	664-8489
PDC	Dungan, W. T.	900 Marshall, Little Rock 72201	372-1510
FP	Durham, James W.	Post Office Box 805, Jacksonville 72076	982-4551
D	Dwyer, Gregory A.	500 South University, Little Rock 72205	664-4161
RD	Easley, Edgar J.	220 Linwood Court, Little Rock 72205 (Res.)	663-5086
ORS	Easter, Rex M.	601 North University, Little Rock 72205	666-0144
P	Eckart, Emile P.	4313 West Markham, Little Rock 72201	664-4500
AN	Edge, Otis H.	500 South University, Little Rock 72205	664-8489
GP	Evans, Gilbert C.	300 East Roosevelt Road, Little Rock 72206	372-8361
FP	Farmer, J. F.	11125 Arcade Drive, Little Rock 72212	225-2594
FP	Farris, Guy R.	6213 Lee Avenue, Little Rock 72205	664-2115
IM	Fendley, Jack	2011 Fendley Drive, North Little Rock 72114	771-0300
R	Ferris, Ernest J.	4301 West Markham, Slot 556, Little Rock 72201	661-5740
FP	Fewell, Ronald D.	Post Office Box 459, Jacksonville 72076	982-2141
GS	Fielder, Charles R.	406 West Pershing, North Little Rock 72114	758-1620
FP	Fields, Patrick R.	102 National Old Line Building, Little Rock 72201	375-3231
R	Fincher, Robert L.	1100 Medical Towers Building, Little Rock 72205	227-5240
U	Finkbeiner, Alex E.	4301 West Markham, Little Rock 72201	661-5240
PD	Fiser, Robert H., Jr.	4301 West Markham, Little Rock 72201	661-5905
GP	Fiser, Susan D.	6917 Geyer Springs, Little Rock 72209	568-4949
GP	Fitzgibbon, Carney, Jr.	410 South Martin, Little Rock 72205 (Res.)	666-8861
FP	Flack, James V.	424 North University, Little Rock 72205	664-4810
NS	Flanigan, Stevenson	4301 West Markham, Little Rock 72201	661-5270
RD	Fletcher, Elizabeth D.	Quapaw Towers, Little Rock 72202 (Res.)	372-6902
NS	Fletcher, Thomas M.	500 South University, Little Rock 72205	664-3021
HEM	Flippin, Tony A.	500 South University, Little Rock 72205	664-3008
GYN	Floyd, Bill G.	210 Doctors Park Building, Little Rock 72205	224-6770
PTH	Fody, Edward P.	300 East Roosevelt, Little Rock 72206	372-8361, Ext. 425
U	Fraiser, L. P.	200 Doctors Park Building, Little Rock 72205	225-9755
PD	Fraser, Eric A.	516 West Pershing, North Little Rock 72114	758-1530
OBG	Fraser, James H., Jr.	9500 West Markham, Little Rock 72205	225-1485
	Frye, Ivan L.	Roseburg Oregon	
OBG	Fuller, Dale	2000 Fendley, North Little Rock 72114	758-3774
OPH	Fulmer, John M.	5410 West Markham, Little Rock 72205	664-3142
CD	Galbraith, Jo Etta S.	#1 St. Vincent Circle, Suite 450, Little Rock 72205	664-5860
N	Galbraith, Robert C.	300 Medical Towers Building, Little Rock 72205	227-4750
OTO	Gardner, Guy F.	330 Medical Towers Building, Little Rock 72205	227-4863
OTO	Gay, Ellery C., Jr.	2 Lile Court, Little Rock 72205	224-1044
R	Gettys, Joseph M., Jr.	1100 Medical Towers Building, Little Rock 72205	227-2771
N	Gibson, Gordon L.	300 Medical Towers Building, Little Rock 72205	227-4750
PUD	Giglia, Anthony R.	500 South University, Little Rock 72205	661-9393
NS	Giles, Wilbur M.	750 Medical Towers Building, Little Rock 72205	225-0880
GYN	Gillespie, A. Tharp	500 South University, Little Rock 72205	664-9555
AN	Glenn, Wayne B.	500 South University, Little Rock 72205	664-4532
AN	Glidden, Michael L.	500 South University, Little Rock 72205	668-8489
PTH	Gloster, Elizabeth S.	3702 Foxcroft Road, Little Rock 72207 (Res.)	224-3366
END	Glover, Lawson E., Jr.	10001 Lile Drive, Little Rock 72205	227-8000
R	Glover, W. Clyde	1100 Medical Towers Building, Little Rock 72205	771-3350
PD	Golladay, Eustace S.	804 Wolfe, Little Rock 72202	376-4621, Ext. 242
	Gooch, Jerry B.	Memphis, Tennessee	
P	Good, Henry H.	#1 St. Vincent Circle, Suite 340, Little Rock 72205	664-1060
A	Gordon, Vida H.	9501 North Rodney Parham Road, Little Rock 72207	227-8545
PD	Gosser, Bob L.	516 West Pershing, North Little Rock 72114	758-1530
IM	Goza, George M., Jr.	500 South University, Little Rock 72205	666-2881
GS	Graham, G. Grimsley	990 Medical Towers Building, Little Rock 72205	227-9080
RD	Gray, Edwin F.	11901 Fairway Drive, Little Rock 72212 (Res.)	224-0220
GE	Greenway, C. Don	409 North University, Little Rock 72205	664-6980
RD	Greutter, John E.	2112 North Beechwood Road, Little Rock 72207 (Res.)	663-1547
ORS	Grimes, H. Austin	Post Office Box 5270, Little Rock 72215	224-6900
RD	Growdon, James H.	17 Wingate, Little Rock 72205 (Res.)	225-2484
GYN	Hagler, James L.	500 South University, Little Rock 72205	664-5330
IM	Hall, A. D.	500 South University, Little Rock 72205	664-0027
U	Hall, A. David	500 South University, Little Rock 72205	664-4364
CD	Hall, Ronald R.	360 Doctors Park Building, Little Rock 72205	224-6525
PUD	Hampton, John R.	500 South University, Little Rock 72205	661-9393
OPH	Hankins, Edwin, III	500 South University, Little Rock 72205	666-0311
OPH	Hardberger, R. E.	#1 St. Vincent Circle, Suite 120, Little Rock 72205	661-0450
GE	Hardin, Ronald D.	960 Medical Towers Building, Little Rock 72205	224-9100
AN	Harger, C. Harold	1150 Medical Towers Building, Little Rock 72205	227-7590
IM	Harper, Ernest H.	400 West Pershing, North Little Rock 72114	227-8000

Type of Practice	Member's Name	Address	Telephone Number
FP	Harper, Gary E.	123 Pearl, Little Rock 72205	375-3000
P	Harrendorf, Cagle	500 South University, Little Rock 72205	663-6346
R	Harris, D. R.	Post Office Box 7509, Little Rock 72217	664-8573
RHU	Harris, Michael N.	400 West Pershing, North Little Rock 72114	227-8000
P	Harris, T. Stuart	12115 Hinson Road, Little Rock 72212	227-0680
NM	Harris, William T.	500 South University, Little Rock 72205	664-3914
FP	Harrison, Roy E.	8824 Chicot Road, Little Rock 72209	562-8600
P	Harrison, Vale	930 Medical Towers Building, Little Rock 72205	225-7433
O8G	Harrison, William E.	500 South University, Little Rock 72205	664-9232
P	Hawley, Harold B.	10800 Yosemite Valley Drive, Little Rock 72212	371-3055
GS	Hayden, William F.	500 South University, Little Rock 72205	664-2434
P5	Hayes, Harry, Jr.	#1 St. Vincent Circle, Suite 310, Little Rock 72205	666-2811
R	Haynes, W. D.	500 South University, Little Rock 72205	664-3914
U	Headstream, James W.	500 South University, Little Rock 72205	664-4364
P	Hearnberger, Henry G., Jr.	4313 West Markham, Little Rock 72201	664-4500
FP	Hedges, Harold H.	424 North University, Little Rock 72205	664-4810
A	Hefley, Bill F.	Post Office Box 5675, Little Rock 72215	227-5120
FP	Hendren, Michael C.	280 Doctors Park Building, Little Rock 72205	227-6226
P	Henker, Fred O.	4301 West Markham, Little Rock 72201	661-5266
GYN	Henry, Charles R.	500 South University, Little Rock 72205	664-4191
O8G	Henry, Charles R., Jr.	500 South University, Little Rock 72205	664-4191
N	Henry, G. Morrison	300 Medical Towers Building, Little Rock 72205	227-4750
OPH	Henry, J. Forrest, Jr.	516 Scott, Little Rock 72201	374-6338
OPH	Henry, Richard Y.	312 West Pershing, North Little Rock 72114	758-7627
PD	Henry, Robert L.	500 South University, Little Rock 72205	664-4044
IM	Herron, Jerry M.	890 Medical Towers Building, Little Rock 72205	224-0110
AN	Hickey, Joseph P.	6925 Kingwood Road, Little Rock 72207 (Res.)	666-8865
U	Higginbotham, William E., Jr.	500 South University, Little Rock 72205	664-0651
AN	Hill, Howell V.	1150 Medical Towers Building, Little Rock 72205	227-7590
CD5	Hoffmann, Tom H.	200 Medical Towers Building, Little Rock 72205	224-5666
R	Holder, John C.	4301 West Markham, Little Rock 72201	661-5740
RD	Hollenberg, Henry G.	#7 Longfellow Circle, Little Rock 72207 (Res.)	663-7767
RD	Hollis, Nicholas T.	8701 Riley Road, Little Rock 72205 (Res.)	227-8677
FP	Holmes, Harlan C.	1160 Medical Towers Building, Little Rock 72205	225-6123
GS	Holt, L. Gordon	5326 West Markham, Little Rock 72205	666-9442
RHU	Holt, Stephen D.	10001 Lile Drive, Little Rock 72205	227-8000
R	Holton, Jerry C.	500 South University, Little Rock 72205	664-3914
**D	Horan, Douglas B.	4301 West Markham, Slot 576, Little Rock 72201	661-5110
PTH	Hough, Aubrey J., Jr.	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext. 425
P	Howard, John G.	790 Medical Towers Building, Little Rock 72205	227-6370
N	Howell, C. S., Jr.	300 Medical Towers Building, Little Rock 72205	227-4750
O8G	Howell, Marsha T.	120 Doctors Park Building, Little Rock 72205	224-4738
IM	Hughes, Ronald D.	500 South University, Little Rock 72205	664-9881
ORS	Hundley, John M.	412 Cross, Little Rock 72201	375-5338
ORS	Hutson, Harold G.	110 Doctors Park Building, Little Rock 72205	227-4150
IM	Jackson, J. Presley	10001 Lile Drive, Little Rock 72205	227-8000
FP	Jackson, Morris A.	1304 Wright Avenue, Little Rock 72206	374-7940
D	Jansen, G. Thomas	500 South University, Little Rock 72205	664-4161
PTH	Jimenez, Jorge F.	804 Wolfe, Little Rock 72202	376-4621
CD	Johnson, Ben D.	500 South University, Little Rock 72205	661-0300
PTH	Johnson, B. Richard	1120 Medical Towers Building, Little Rock 72205	225-7711
O8G	Johnson, D. Richard	500 South University, Little Rock 72205	664-8003
IM	Johnson, Henry D.	500 South University, Little Rock 72205	664-4171
ORS	Johnson, Philip H.	Post Office Box 5270, Little Rock 72215	224-6900
O8G	Johnson, Spencer L.	500 South University, Little Rock 72205	661-1711
A	Johnston, Thomas G.	Post Office Drawer A, Hillcrest Station, Little Rock 72205	664-3904
AN	Jones, Garry L.	500 South University, Little Rock 72205	664-8489
GS	Jones, John C.	500 South University, Little Rock 72205	664-4747
ORS	Jones, Kenneth G.	Post Office Box 5270, Little Rock 72215	224-6900
GS	Jones, Robert D.	500 South University, Little Rock 72205	664-4747
D	Jones, William N.	500 South University, Little Rock 72205	664-0418
NS	Jordan, F. Richard	4301 West Markham, Little Rock 72201	661-5676
NS	Jouett, W. Ray	750 Medical Towers Building, Little Rock 72205	225-0880
R	Joyce, John W.	1100 Medical Towers Building, Little Rock 72205	227-5240
RD	Junkin, Ruth H.	Post Office Box 344, Newport 72112 (Res.)	523-3238
AN	Kaemmerling, R. E.	500 South University, Little Rock 72205	664-8489
FP	Kaay, John K.	10121 North Rodney Parham, Little Rock 72207	224-2525
IM	Kahn, Alfred Jr.	1300 West Sixth, Little Rock 72201	374-5588
PTH	Kalderon, Albert E.	4301 West Markham, Little Rock 72201	661-5171
CD	Kane, James J.	#1 St. Vincent Circle, Suite 450, Little Rock 72205	664-5860
D	Keeran, Michael G.	500 South University, Little Rock 72205	664-4161
O8G	Keller, Al W.	2000 Fendley Drive, North Little Rock 72114	758-3774
FP	Kennedy, Charles H.	3115 JFK Boulevard, North Little Rock 72116	753-9464
PD	Kennedy, H. Frazier	500 South University, Little Rock 72205	664-4117
GS	King, G. Errol	1304-8 Wright Avenue, Little Rock 72206	376-4020
PDA	Kittler, Fred J.	Post Office Box 5675, Little Rock 72215	227-5210
CD	Kizziar, J. C.	10001 Lile Drive, Little Rock 72205	227-8000
P	Koehler, Thomas R.	4313 West Markham, Little Rock 72201	664-4500
IM	Kohler, Peter O.	4301 West Markham, Slot 519, Little Rock 72201	661-5160
RD	Kolb, Agnes J.	30 Lenon Drive, Little Rock 72207 (Res.)	663-7930
P	Kolb, W. Payton	230 Medical Towers Building, Little Rock 72205	225-0887
RD	Kozberg, Oscar	4 Windsor Court, Little Rock 72212 (Res.)	225-7709
GYN	Kreth, Kay M.	417 North University, Little Rock 72205	663-9441
TS	Krishnan, Bhaktan	200 Medical Towers Building, Little Rock 72205	224-5666
P	Krulin, Gregory S.	#1 St. Vincent Circle, Suite 340, Little Rock 72205	664-1060
CD	Kumpuris, Andrew G.	501 North University, Little Rock 72205	664-6841
GE	Kumpuris, D. Dean	501 North University, Little Rock 72205	666-0249
GS	Kumpuris, Frank G.	415 North University, Little Rock 72205	664-1521
O8G	Kwee, James J.	#1 Lile Court, Little Rock 72205	224-5500
OTO	Kyser, James F.	900 Medical Towers Building, Little Rock 72205	227-8501
OPH	Landers, James H.	500 South University, Little Rock 72205	664-1104
R	Lane, John W.	1100 Medical Towers Building, Little Rock 72205	227-2180
GS	Lang, Nicholas P.	4301 West Markham, Little Rock 72201	661-6186
R	Langston, Harold D.	Post Office Box 5668, Little Rock 72215	664-8573
FP	Laurenzana, Donald A.	3423 Pike Avenue, North Little Rock 72118	753-3661
RD	Lawson, Mason G.	200 Ridgeway, Little Rock 72205 (Res.)	663-4834
A	Lee, J. Fred	Post Office Drawer A, Hillcrest Station, Little Rock 72205	664-3904
PS	Lehman, R. W.	919 University Tower Building, Little Rock 72204	664-8672
RHU	Leonard, Donald G.	#1 St. Vincent Circle, Suite 150, Little Rock 72205	664-2466
FP	Leonard, Garnett J.	3115 JFK Boulevard, North Little Rock 72116	753-9499
O8G	Leou, Frank J.	1070 Medical Towers Building, Little Rock 72205	224-1080
ORS	Lester, Joe K.	1518 Main, North Little Rock 72114	375-0102
PD	Levin, Frederick R.	500 South University, Little Rock 72205	664-4044
FP	Lewellen, John C.	8824 Chicot Road, Little Rock 72209	562-8600
CD	Lewis, W. Sexton	700 Medical Towers Building, Little Rock 72205	227-4434
R	Lile, Henry A.	1100 Medical Towers Building, Little Rock 72205	227-5240
TS	Lincoln, Ben M.	5326 West Markham, Little Rock 72205	664-6705

Type of Practice	Member's Name	Address	Telephone Number
ORS	Lipke, Jay M.	601 North University, Little Rock 72205	666-0144
TS	Loeb, Edward C.	250 Medical Towers Building, Little Rock 72205	227-4787
PH	Lofgren, J. P.	4815 West Markham, Little Rock 72205	661-2316
U	Logan, Charles W.	500 South University, Little Rock 72205	664-4364
ORS	Logue, Richard M.	601 North University, Little Rock 72205	666-0144
IM	Love, Tommy L., Jr.	#1 St. Vincent Circle, Suite 350, Little Rock 72205	664-5932
PD	Lowe, Betty A.	804 Wolfe, Little Rock 72202	376-4621, Ext. 101
N	Lucy, Dennis D., Jr.	4301 West Markham, Little Rock 72201	661-5134
GS	Ludwig, Frank R.	406 West Pershing, North Little Rock 72114	758-1620
GS	Lyons, Virgle E., Jr.	500 South University, Little Rock 72205	664-2434
GS	Mabry, Charles D.	4301 West Markham, Little Rock 72201	661-6176
PTH	Malak, Fahmy M. A.	Post Office Box 5274, Little Rock 72215	227-5936
FP	Mallory, George L., Jr.	4511 Lynch Drive, North Little Rock 72117	945-9271
**AN	Mallory, John A.	4301 West Markham, Little Rock 72201	661-6114
IM	Malott, Jerry D.	670 Medical Towers Building, Little Rock 72205	224-2424
PTH	Markland, Gary S.	9601 Interstate 630, Exit 7, Little Rock 72201	227-2888
PUD	Mason, William L.	500 South University, Little Rock 72205	661-9393
RD	Massey, C. Garnett	1700 White Road, Little Rock 72211 (Res.)	225-6775
A	Matthews, Joe W.	Post Office Box 5675, Little Rock 72215	227-5210
P	Matthews, Robert R.	4301 West Markham, Slot 568, Little Rock 72201	661-5903
CD	Meacham, Donald F.	650 Shackleford, Little Rock 72211	224-9001
AN	Means, Paul N.	1150 Medical Towers Building, Little Rock 72205	227-7590
IM	Metrailler, James A.	10121 North Rodney Parham, Little Rock 72207	224-2525
N	Miles, David A.	500 South University, Little Rock 72205	664-3018
ORS	Millard, I. Leighton	Post Office Box 5270, Little Rock 72215	224-6900
NEP	Miller, C. Lindsey	350 Medical Towers Building, Little Rock 72205	224-2141
FP	Miller, Forrest B., Jr.	4202 South University, Little Rock 72204	562-4838
IM	Miller, Raymond P., Sr.	5918 Lee, Little Rock 72205	664-250J
OBG	Miller, Timothy T.	4301 West Markham, Slot 518, Little Rock 72201	661-5921
OTO	Milner, E. L.	500 South University, Little Rock 72205	664-4318
R	Mirza, Fayyaz H.	4301 West Markham, Little Rock 72201	661-5740
ADM	Mitchell, George K.	Post Office Box 2181, Little Rock 72203	378-2133
N	Money, Wandal D.	2003 Fendley Drive, North Little Rock 72114	753-5462
D	Moore, Burton A.	500 South University, Little Rock 72205	664-4161
U	Moore, J. Malcolm	500 South University, Little Rock 72205	664-4364
GS	Moore, Rex N.	Post Office Box 459, Jacksonville 72076	982-2141
IM	Moore, Robert B.	5918 Lee, Little Rock 72205	664-250C
OBG	Morgan, Frank E.	410 West Pershing, North Little Rock 72114	758-1022
TS	Morris, W. Dale	8500 West Markham, Little Rock 72205	224-195C
IM	Morris, Woodbridge E.	310 Ridgeway, Little Rock 72205 (Res.)	663-6551
FP	Morrison, Doyle H.	3807 McCain Place, North Little Rock 72116	758-8981
R	Morrison, James R.	500 South University, Little Rock 72205	664-3914
ORS	Morrissy, Raymond T.	804 Wolfe, Little Rock 72202	376-4621, Ext. 18C
IM	Morse, Jim C.	500 South University, Little Rock 72205	661-9740
GE	Morton, William J.	10001 Lile Drive, Little Rock 72205	227-8000
ORS	Mulhollan, James S.	#1 St. Vincent Circle, Suite 410, Little Rock 72205	664-6334
GP	Murphy, James E.	1800 Maple, North Little Rock 72114	758-1640
P	Murphy, Randolph	2903 Hidden Valley Road, Little Rock 72212 (Res.)	225-1564
R	McAdoo, Hosea W., Jr.	1100 Medical Towers Building, Little Rock 72205	982-7156
GYN	McCaskill, Melvin R.	500 South University, Little Rock 72205	664-4131
PTH	McConnell, John D.	Post Office Box 5507, Brady Station, Little Rock 72215	664-2593
GS	McCracken, John D.	1000 Medical Towers Building, Little Rock 72205	227-8180
FP	McCrary, George A.	Post Office Box 805, Jacksonville 72076	982-4551
FP	McGowan Robert J., Jr.	424 North University, Little Rock 72205	664-4810
OTO	McGrew, Robert N.	1200 Medical Towers Building, Little Rock 72205	227-5050
OBG	McKelvey, K. David.	500 South University, Little Rock 72205	664-4131
ORS	McKenzie, Charles N.	802 North University, Little Rock 72205	666-0251
PTH	McKinney, C. N.	Post Office Box 5507, Brady Station, Little Rock 72215	664-2593
OBG	McKnight, C. Allen	800 Medical Towers Building, Little Rock 72205	227-5885
IM	McMillan, James A.	670 Medical Towers Building, Little Rock 72205	224-2424
RD	McMillin, Lamar	337 Crystal Court, Little Rock 72205 (Res.)	663-3783
GPM	McNair, James R.	1000 Medical Towers Building, Little Rock 72205	227-8183
GP	Napper, George S.	513 Main, North Little Rock 72114	375-2433
R	Nelson, Alvah J., III	500 South University, Little Rock 72205	664-3914
ORS	Nelson, Carl L.	4301 West Markham, Little Rock 72201	661-5252
R	Newbern, David H.	500 South University, Little Rock 72205	664-3914
RD	Nisbett, James M.	517 East 7th, Little Rock 72202 (Res.)	375-2252
R	North, Edward R.	Stanford, California	
R	Norton, George A.	500 South University, Little Rock 72205	664-3914
R	Norton, Joseph A.	8570 Cantrell, Little Rock 72207 (Res.)	225-1B60
PH	Oates, Gordon P.	1700 West 13th, Little Rock 72202	376-4512
R	Oddson, Terrence A.	500 South University, Little Rock 72205	664-3914
GP	Ogden, Mahlon D.	4601 Woodlawn, Little Rock 72205	664-0769
ADM	O'Neal, Walter H.	9601 Interstate 630, Little Rock 72201	227-2672
GS	Osam, Patrick N.	320 Doctors Park Building, Little Rock 72205	227-7200
GS	Ozment, Kerry	1000 Medical Towers Building, Little Rock 72205	227-8180
PTH	Packmore, D. E.	#1 St. Vincent Circle, Suite 220, Little Rock 72205	663-4116
ADM	Padberg, Frank T.	175 East Delaware Place, Apt. 5402, Chicago, Illinois 60611 (Res.)	312-664-4050
HEM	Padilla, Fernando	#1 St. Vincent Circle, Suite 160, Little Rock 72205	664-6601
AN	Panuska, Jerry	1150 Medical Towers Building, Little Rock 72205	227-7590
OT	Pappas, James J.	1200 Medical Towers Building, Little Rock 72205	227-5050
OPH	Parker, J. Mayne	500 South University, Little Rock 72205	666-9632
GS	Parnell, Clifton L., III	8500 West Markham, Little Rock 72205	224-1950
PD	Paulus, Thomas E.	500 South University, Little Rock 72205	664-4044
ORS	Peeples, R. Earl	110 Doctors Park Building, Little Rock 72205	227-4150
CHP	Peters, John E.	4301 West Markham, Little Rock 72201	661-5800
END	Peters, Phillip J.	10001 Lile Drive, Little Rock 72205	227-8000
OPH	Petursson, Gissur J.	4301 West Markham, Little Rock 72201	661-5151
OPH	Phillips, Bert L.	1403 Main, North Little Rock 72114	376-2840
OBG	Phillips, Charles E.	800 Medical Towers Building, Little Rock 72205	227-5885
GS	Phippis, W. E., Jr.	Post Office Box 13, North Little Rock 72115	374-4821
GS	Pike, John	500 South University, Little Rock 72205	664-4321
IM	Pilcher, Michael T.	2011 Fendley Drive, North Little Rock 72114	771-0300
FP	Pledger, Norman R.	2500 McCain Boulevard, North Little Rock 72116	758-2644
AN	Pollard, Arlee E.	500 South University, Little Rock 72205	664-4532
RD	Pool, Chalmers S.	3925 North Lookout, Little Rock 72205 (Res.)	663-9352
PS	Pope, Norton A.	850 Medical Towers Building, Little Rock 72205	227-6464
OTO	Potts, Jerry L.	500 South University, Little Rock 72205	664-9082
GE	Power, Robert C.	409 North University, Little Rock 72205	664-6980
NM	Prather, Jerry L.	500 South University, Little Rock 72205	664-3914
CD	Price, Ben O.	500 South University, Little Rock 72205	664-9535
RD	Prinogs, Andrew A.	Post Office Box 2900, Little Rock 72203 (Res.)	663-6230
RD	Proctor, Clark B.	63 Sherrill Heights, Little Rock 72202 (Res.)	663-5269
FP	Purdy, Harold D.	6924 Geyer Springs Road, Little Rock 72209	562-1463
IM	Pyle, Hoyte R., Jr.	5918 Lee, Little Rock 72205	664-2500
	Radwanska, Ewa	Chicago, Illinois	

Type of Practice	Member's Name	Address	Telephone Number
N.	Ragsdill, Mary L.	2003 Fendley Drive, North Little Rock 72114.	753-5462
CDS	Ransom, John M.	780 Medical Towers Building, Little Rock 72205.	224-1508
D.	Raque, Carl J.	500 South University, Little Rock 72205.	666-5451
IM	Rasch, James R.	10001 Lile Drive, Little Rock 72205.	227-8000
GS	Read, Raymond C.	300 East Roosevelt Road, Little Rock 72206.	372-8361
#	Reaves, B. James	Little Rock	
PUD	Rector, Nancy F.	890 Medical Towers Building, Little Rock 72205.	224-0110
NS	Redding, David L.	750 Medical Towers Building, Little Rock 72205.	225-0880
U.	Redman, John F.	4301 West Markham, Slot 540, Little Rock 72201.	661-5240
OBG	Reed, Ewing C., Jr.	300 Doctors Park Building, Little Rock 72205.	227-6377
IM	Reeder, Kathryn I.	Veterans Administration Medical Center, North Little Rock 72114.	372-8361, Ext. 606
P.	Reese, William G.	4301 West Markham, Slot 506, Little Rock 72201.	661-5266
R.	Regnier, George	500 South University, Little Rock 72205.	664-3914
R.	Rhinehart, William J.	500 South University, Little Rock 72205.	664-3914
U	Rice, Peyton E.	2000 Fendley Drive, North Little Rock 72114.	753-4593
CD.	Richards, Mary K.	#1 St. Vincent Circle, Suite 140, Little Rock 72205.	666-5000
GS	Richardson, Robert E.	500 South University, Little Rock 72205.	664-4321
FP	Riddle, John F., Jr.	8824 Chicot Road, Little Rock 72209.	562-8600
R.	Ridout, Robert G. III	4301 West Markham, Little Rock 72201.	661-5000
FP	Riegler, Nicholas W., Jr.	1024 Scott, Little Rock 72202.	375-3326
FP	Riley, William H.	4202 South University, Little Rock 72204.	562-4838
CHP	Ringdahl, Irving C.	4301 West Markham, Little Rock 72201.	661-5810
OPH.	Roberson, Michael C.	623 Woodlane, Little Rock 72201.	374-6491
R.	Roberts, David H.	Baxter General Hospital, Mountain Home 72653.	425-3141
GYN	Rodgers, C. Dudley.	500 South University, Little Rock 72205.	664-4131
FP	Rodgers, Charles H.	4202 South University, Little Rock 72204.	562-4838
RD.	Rodgers, Clyde D.	5223 Hawthorne Road, Little Rock 72207 (Res.)	663-7502
PTH	Roe, Rodney A.	Post Office Box 5507, Brady Station, Little Rock 72215.	664-2593
GYN	Roman, Juan J.	#1 St. Vincent Circle, Suite 360, Little Rock 72205.	661-0596
ORS	Rooney, Thomas P.	501 West 25th, North Little Rock 72114.	758-2046
RD.	Rosenbaum, Carl A.	107 Cambridge Place, Little Rock 72207 (Res.)	225-8071
ORS	Ross, Ashley S.	#1 Lile Circle, Little Rock 72205.	227-8500
GYN	Ross, Robert W.	417 North University, Little Rock 72205.	664-8200
IM.	Ross, S. William.	#1 St. Vincent Circle, Suite 110, Little Rock 72205.	664-6600
PTH	Roth, Sanford I.	4301 West Markham, Little Rock 72201.	661-6400
RD	Rothert, Frances C.	Benedictine Manor, Hot Springs 71913 (Res.)	623-1571
OTO	Rounsaville, Harry L.	500 South University, Little Rock 72205.	664-9082
OPH.	Roy F. Hampton.	970 Medical Towers Building, Little Rock 72205.	227-6980
OTO	Ruggles, Dwayne L.	520 West 26th, North Little Rock 72114.	758-6560
ORS	Runyan, W. A.	110 Doctors Park Building, Little Rock 72205.	227-4150
ORS	Saer, Edward H., III	#1 St. Vincent Circle, Little Rock 72205.	661-0350
FP.	Saltzman, Ben N.	4815 West Markham, Little Rock 72205.	661-2111
TS.	Satterfield, John V.	500 South University, Little Rock 72205.	664-6050
FP	Schratz, Bruce E.	1801 Maple, North Little Rock 72114.	758-1002
OPH.	Schroeder, George T.	260 Doctors Park Building, Little Rock 72205.	224-4484
IM.	Schultz, John C.	10001 Lile Drive, Little Rock 72205.	227-8000
GS.	Schwander, Howard.	320 Doctors Park Building, Little Rock 72205.	227-7200
OPH	Schwarz, W.J.	405 North University, Little Rock 72205.	664-5354
PTH.	Scott, Don I.	#1 St. Vincent Circle, Suite 220, Little Rock 72205.	661-8539
OPH.	Scruggs, Jan W.	312 West Pershing, North Little Rock 72114.	758-7627
R.	Seibert, Joanna	804 Wolfe, Little Rock 72202.	376-4621, Ext. 178
ORS	Selakovich, Walter G.	500 South University, Little Rock 72205.	666-2824
OBG	Selby, Micheal L.	500 South University, Little Rock 72205.	664-8003
P	Shannon, Robert F.	4301 West Markham, Little Rock 72201.	661-5266
OPH.	Shock, John P.	4301 West Markham, Little Rock 72201.	661-5150
ADM.	Shuffield, H. Elvin	2 Valley Club Circle, Little Rock 72212 (Res.)	227-0418
IM.	Silvoso, Gerald R.	10001 Lile Drive, Little Rock 72205.	227-8000
OBG.	Simmons, Orman W.	1 Lile Court, Little Rock 72205.	224-5500
IM.	Simpson, N. Henry	441 Donaghey Building, Little Rock 72201.	375-2801
P	Sims, James M.	2500 McCain, North Little Rock 72116.	758-9992
ADM.	Sims, Neil H.	4301 West Markham, Little Rock 72201.	661-5320
PTH	Singleton, L. Gene	1120 Medical Towers Building, Little Rock 72205.	227-2888
GS	Sipes, Frank M.	1100 North University, Little Rock 72207.	664-4596
OBG.	Skokos, C. Kemp	500 South University, Little Rock 72205.	664-4131
ORS	Slater, John G.	1100 North University, Little Rock 72207.	664-7710
PTH	Slaven, John E.	9600 West 12th, Little Rock 72201.	227-2888
R.	Slayden, John E.	1100 Medical Towers Building, Little Rock 72205.	227-5240
AN	Sloan, Fay M.	1150 Medical Towers Building, Little Rock 72205.	227-7590
GYN	Sloan, James M.	500 South University, Little Rock 72205.	664-2277
GE.	Smart, Douglas F.	409 North University, Little Rock 72205.	664-6980
P	Smith, Aubrey C.	#1 St. Vincent Circle, Suite 260, Little Rock 72205.	664-0001
ORS	Smith, Bruce L., Jr.	#1 St. Vincent Circle, Suite 210, Little Rock 72205.	661-0350
CD.	Smith, David E.	360 Doctors Park Building, Little Rock 72205.	224-6525
OBG.	Smith, Douglas B.	1 Lile Court, Little Rock 72205.	224-5500
OPH.	Smith, James L.	623 Woodlane, Little Rock 72201.	374-6491
OPH.	Smith, Joe E.	7107 West 12th, Little Rock 72204.	666-8627
FP	Smith, John McCollough.	4000 Woodlawn, Little Rock 72205.	666-6570
GYN	Smith, Mose, III.	5326 West Markham, Little Rock 72205.	664-1527
R.	Smith, Phillip L.	4301 West Markham, Little Rock 72201.	661-5740
A	Smith, Purcell, Jr.	Post Office Box 5675, Little Rock 72215.	227-5210
GE	Smith, Thomas J.	409 North University, Little Rock 72205.	664-6980
PD.	Smith, Thomas W.	500 South University, Little Rock 72205.	664-4117
OTO	Smith, Tom.	330 Medical Towers Building, Little Rock 72205.	227-4863
RD.	Snodgrass, William A., Jr.	351 Conti, Apt. 1104, Mobile, Alabama 36602.	205-433-9471
R.	Snyder, Linda M.	4301 West Markham, Slot 556, Little Rock 72201.	661-5740
**FP	Snyder, Victor F.	1700 West 13th, Little Rock 72202.	375-1116
FP	Somers, Jack	330 Doctors Park Building, Little Rock 72205.	227-6363
ORS	Sorrells, R. Barry.	Post Office Box 5270, Little Rock 72215.	224-6900
RD.	Spitzberg, Irving J.	307 North Cedar, Little Rock 72205 (Res.)	663-6877
EM.	Spurgeon, Paul S.	4301 West Markham, Slot 584, Little Rock 72201.	661-5515
PUD.	Squire, Arthur E.	10001 Lile Drive, Little Rock 72205.	227-8000
GS	Stainton, Robert.	300 East Roosevelt Road, Little Rock 72206.	372-8361
U.	Stallings, J. Walt.	500 South University, Little Rock 72205.	664-0651
IM.	Stanley, Joe P.	Pike Plaza Center, North Little Rock 72114.	758-9823
ORS	Steele, William L.	1100 North University, Little Rock 72207.	664-7710
IM.	Steinkamp, Ruth C.	Veterans Administration Medical Center, Little Rock 72206.	372-8361
ONC.	Sternberg, Jack J.	500 South University, Little Rock 72205.	661-0060
END.	Stonesifer, Larry D.	8500 West Markham, Little Rock 72205.	225-9654
FP	Storeygard, Alan R.	Post Office Box 459, Jacksonville 72076.	982-2141
FP	Stotts, John R.	Post Office Box 7219, Little Rock 72217.	663-9415
CD	Stout, Kimber M.	2000 Fendley Drive, North Little Rock 72114.	758-5133
FP	Strauss, Alvin W., Jr.	1026 Donaghey Building, Little Rock 72201.	372-1828
IM.	Strauss, Mark A.	1026 Donaghey Building, Little Rock 72201.	372-1828
PTH.	Strauss, Robert A.	4301 West Markham, Little Rock 72201.	661-5950
PD	Stroope, George F.	516 West Pershing, North Little Rock 72114.	758-1530
OBG.	Struble, Harlan.	270 Medical Towers Building, Little Rock 72205.	224-6300
PS.	Struckey, James G.	500 South University, Little Rock 72205.	664-4383

Type of Practice	Member's Name	Address	Telephone Number
OBG	Studdard, James D.	#1 Lile Court, Little Rock 72205	224-5500
U	Suliman, J. Samir	518 West 26th, North Little Rock 72114	758-6111
PTH	Sullivan, Charles D.	1120 Medical Towers Building, Little Rock 72205	227-2888
P	Sundermann, Richard H.	Veterans Administration Hospital, North Little Rock 72114	372-8361
RD	Swindoll, Bryant S.	3415 North Hills Boulevard, North Little Rock 72116 (Res.)	753-3029
OBG	Tanner, James A.	#1 Lile Court, Little Rock 72205	224-5500
IM	Taylor, Eugene H.	10001 Lile Drive, Little Rock 72205	227-8000
CRS	Tedford, John G.	500 South University, Little Rock 72205	664-8466
PD	Teefer, John A.	500 South University, Little Rock 72205	664-4117
GE	Texter, E. Clinton, Jr.	4301 West Markham, Slot 567, Little Rock 72201	661-5177
OPH	Thomas, A. Henry	500 South University, Little Rock 72205	664-8445
P	Thomas, James L.	4313 West Markham, Little Rock 72201	664-4500
ORS	Thomas, Jerry L.	#1 St. Vincent Circle, Suite 210, Little Rock 72205	661-0350
GS	Thomas, Peter O.	1310 Cantrell Road, Little Rock 72201	374-5703
CD	Thompson, A. J.	#1 St. Vincent Circle, Suite 450, Little Rock 72205	664-5860
OTO	Thompson, Albert R.	500 South University, Little Rock 72205	664-4381
GS	Thompson, Bernard W.	300 East Roosevelt Road, Little Rock 72206	372-8361
AN	Thompson, Dola S.	4301 West Markham, Little Rock 72201	661-6115
P	Thompson, Robert M.	819 University Tower Building, Little Rock 72204	664-2444
ORS	Thompson, S. Berry	1100 North University, Little Rock 72207	664-7710
ORS	Thompson, Samuel B.	1100 North University, Little Rock 72207	664-7710
ADM	Thorn, G. Max	St. Vincent Infirmary, Little Rock 72201	661-3154
OBG	Thrower, Rufus, Jr.	1306 Wright Avenue, Little Rock 72206	374-3926
CD	Ticaric, Stephen T.	#1 St. Vincent Circle, Suite 440, Little Rock 72205	664-9040
FP	Tilley, Steve	Post Office Box 7219, Little Rock 72217	663-9415
R	Tirman, Robert M.	4301 West Markham, Little Rock 72201	661-5740
IM	Tolbert, Louis E., Jr.	500 South University, Little Rock 72205	666-0136
ADM	Towbin, Eugene J.	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext. 291
FP	Tracy, Phillip A.	Post Office Box 459, Jacksonville 72076	982-2141
ONC	Tranum, Bill L.	500 South University, Little Rock 72205	664-3008
GP	Trussell, Thomas W.	5300 West Markham, Little Rock 72205	663-6251
AN	Tseng, Jyi-Ming	1150 Medical Towers Building, Little Rock 72205	227-7590
N	Tucker, Richard P.	500 South University, Little Rock 72205	664-3018
GS	Tucker, W. Everett Jr.	990 Medical Towers Building, Little Rock 72205	227-9080
AN	Valentine, Robert G.	2800 Percy Machin Drive, North Little Rock 72114	758-4806
AN	Vaughter, W. Roger	3 Ken Circle, Little Rock 72207 (Res.)	664-3789
FP	Venable, R. S.	6917 Geyer Springs, Little Rock 72209	568-4949
PS	Vogel, Robert G.	919 University Tower Building, Little Rock 72204	664-8672
GP	Wade, William I.	424 North University, Little Rock 72205	664-4810
IM	Wagoner, Jack	5918 Lee, Little Rock 72205	664-2500
RD	Wallis, Charles	5909 Country Club, Little Rock 72207 (Res.)	663-2132
GS	Walt, James R.	500 South University, Little Rock 72205	664-4146
ADM	Ward, Harry P.	4301 West Markham, Little Rock 72201	661-5680
AN	Ward, Joseph P.	1150 Medical Towers Building, Little Rock 72205	227-7590
PD	Warford, Lloyd R.	500 South University, Little Rock 72205	664-4044
P	Warford, Walton R.	3737 Lakeshore Drive, North Little Rock 72116 (Res.)	753-4193
OPH	Watkins, John G., Jr.	230 Doctors Park Building, Little Rock 72205	227-6797
OPH	Watkins, John G., III	230 Doctors Park Building, Little Rock 72205	227-6797
IM	Watkins, Larry S.	500 South University, Little Rock 72205	661-9740
RD	Watson, Robert	30 Edgehill, Little Rock 72207 (Res.)	663-6680
ORS	Weber, Edward R.	4301 West Markham, Little Rock 72201	661-5251
FP	Weber, James R.	Post Office Box 188, Jacksonville 72076	982-2108
ORS	Weber, Michael J.	4301 West Markham, Little Rock 72201	661-5251
CDS	Weiss, John B.	780 Medical Towers Building, Little Rock 72205	224-1508
NEP	Wellons, Jim	350 Medical Towers Building, Little Rock 72205	224-2141
IM	Wells, Travis L.	216 Donaghey Building, Little Rock 72201	375-7121
PS	Wende, Raymond A.	919 University Tower Building, Little Rock 72204	664-8672
GS	Wenger, Carl E.	330 Doctors Park Building, Little Rock 72205	227-6363
GS	Westbrook, Kent C.	4301 West Markham, Little Rock 72201	661-5987
P	Westerfield, Frank M., Jr.	230 Medical Towers Building, Little Rock 72205	225-0777
PTH	Wetzel, William J.	4301 West Markham, Little Rock 72201	661-5171
FP	White, Oba B.	908 High, Little Rock 72202	374-3609
RD	Wilbur, E. Lloyd	3 Wingate Drive, Little Rock 72205 (Res.)	225-1252
GP	Wilkes, Elbert H.	5322 West Markham, Little Rock 72205	663-4114
CDS	Williams, C. David	200 Medical Towers Building, Little Rock 72205	224-5666
CDS	Williams, G. Doyne	#1 St. Vincent Circle, Suite 330, Little Rock 72205	666-2894
NS	Williams, Ronald N.	750 Medical Towers Building, Little Rock 72205	225-0880
CD	Wilson, James W.	#1 St. Vincent Circle, Suite 440, Little Rock 72205	664-9040
FP	Wilson, Jed D.	705 North Ash, Little Rock 72205	663-5413
ORS	Wilson, John L.	601 North University, Little Rock 72205	666-0144
OPH	Wilson, R. Sloan	500 South University, Little Rock 72205	664-1104
IM	Wilson, T. Ben	2011 Fendley Drive, North Little Rock 72114	771-0300
IM	Winn, Charles R., Jr.	240 Doctors Park Building, Little Rock 72205	227-6659
OBG	Wong, Ting-Chao	4301 West Markham, Little Rock 72201	661-5971
GYN	Wood, Gary P.	500 South University, Little Rock 72205	664-6127
FP	Woods, Gary A.	102 National Old Line Building, Little Rock 72201	375-3231
FP	Wortham, Thomas H.	Post Office Box 459, Jacksonville 72076	982-2141
	Wynn, Ralph M.	Chicago, Illinois	
PTH	Young, Douglas E.	9600 West 12th, Little Rock 72201	227-2888
U	Young, Jerry M.	410 West 26th, North Little Rock 72114	758-1310
OBG	Young, Robert P.	500 South University, Little Rock 72205	664-8003
RD	Zell, L. M.	Star Route, Box 201-A, Tucker 72168 (Res.)	842-2216

RANDOLPH COUNTY

FP	Baltz, Albert L.	Highway 90, Country Club Road, Pocahontas 72455	892-4467
FP	Baltz, M. A.	110 West Broadway, Pocahontas 72455	892-3111
FP	Barre, Hal S.	Highway 90, Country Club Road, Pocahontas 72455	892-4497
FP	DeClerk, Thomas B.	Highway 90, Country Club Road, Pocahontas 72455	892-3344
FP	Holt, Danny B.	Highway 90, Country Club Road, Pocahontas 72455	892-4467
FP	Jansen, Andrew J., III	Highway 90, Country Club Road, Pocahontas 72455	892-4467
FP	Lombardo, Richard J.	Route 4, Highway 90, Pocahontas 72455	892-4464
FP	Scott, William W.	Post Office Box 466, Pocahontas 72455	892-8086
GP	Smith, Norman K.	107 Van Bibber, Pocahontas 72455	892-3389

SALINE COUNTY

RD	Ashby, John W.	312 Dogwood, Benton 72015 (Res.)	778-2470
R	Ashby, Robert M.	815 North East, Benton 72015	778-6555
GS	Baber, Quin M.	105 McNeil, Benton 72015	778-7435
OM	Bethel, James C.	300 East Roosevelt Road, Little Rock 72206	372-8361
#	Bryan, Harry D.	Benton	
OBG	Caldwell, David L.	910 North East, Benton 72015	778-0426
ORS	Cash, Ralph D.	105 McNeil, Benton 72015	778-1388
GP	Coker, S. Dale	Benton Services Center, Building 6, Benton 72158	371-1906

Type of Practice	Member's Name	Address	Telephone Number
FP	Cornwell, Samuel L.	Route 3, Box 225, Benton 72015.	371-1906
O8G	Council, Robert A., Jr.	910 North East, Benton 72015.	778-0426
ORS	Duncan, J. Shelby	105 McNeil, Benton 72015.	778-1388
EM	Edmiston, Frank G.	Jefferson Regional Medical Center, Pine Bluff 71603.	541-7100
OM	Frاندolig, John E.	Post Office Box 97, 8auxite 72011.	554-5421, Ext. 479
OPH	Gardner, Dan R.	Post Office Box 340, Benton 72015.	778-8843
GP	Hogue, F. Paul	Post Office Box 307, Benton 72015.	778-4511
FP	Hood, Ted	205 Carpenter, Benton 72015.	778-8264
GP	Izard, Ralph S.	Post Office Box AA, Bryant 72022.	847-0289
FP	Jones, Curtis W., Sr.	225 South Market, Benton 72015.	778-2722
FP	Kirk, Marvin N., Jr.	205 Carpenter, Benton 72015.	778-8264
FP	Martindale, J. L.	302 West South, Benton 72015.	778-4511
P	Mizell, Walter S.	Benton Services Center, Benton 72158.	778-1111
PD	McClard, Helen R.	Post Office Box 908, Benton 72015.	778-0421
AN	Porter, Jim C.	Post Office Box D, Benton 72015.	776-0052
OM	Ramsay, Rex C., Jr.	Post Office Box 300, 8auxite 72011.	778-3644
FP	Stewart, David L.	205 Carpenter, Benton 72015.	778-8264
FP	Taggart, S. D.	Post Office Box 969, Benton 72015.	778-0934
O8G	Thibault, Frank G., Jr.	910 North East, Benton 72015.	778-0426
IM	Thomas, Bill R.	111 McNeil, Benton 72015.	778-5740
RD	Thorn, H. 8., Jr.	Route 6, Box 1200, Benton 72015 (Res.)	778-4858
FP	Tilley, Roger L.	302 West South, Benton 72015.	778-4511
GS	Viner, Donald L.	105 McNeil, Benton 72015.	778-7435
FP	Wright, John D.	321 Short, Benton 72015.	776-0603

SCOTT COUNTY

GP	Wright, Harold 8.	Post Office Box 249, Waldron 72958.	637-3111
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SEBASTIAN COUNTY

PD	Aclin, Richard R.	500 South 16th, Fort Smith 72901.	783-1085
RD	Adams, W. F.	1100 Murta Road, Van Buren 72956 (Res.)	474-8668
R	Albers, David G.	Post Office Box 1827, Fort Smith 72902.	782-5035
ORS	Alberty, Joe Paul	300 North Greenwood, Fort Smith 72901.	783-5970
EM	Alexander, R. Kent	1311 South "I", Fort Smith 72901.	441-4381
GS	Anderson, Paul M.	1501 South Waldron, Fort Smith 72903.	452-9316
O8G	Atkins, Jimmie G.	1500 Dodson, Fort Smith 72901.	782-2071
GP	8ailey, Charles W.	Post Office Box 426, Greenwood 72936.	996-4111
P	8aker, Max A.	2112 South Greenwood, Fort Smith 72901.	785-2361
IM	8arker, Robert C., Jr.	1500 Dodson, Fort Smith 72901.	782-2071
HEM	8arnes, L. Ford	Post Office Box 3528, Fort Smith 72913.	452-2077
GE	8ordeaux, Ronald A.	Post Office Box 3528, Fort Smith 72913.	452-2077
D	8radford, A. C.	Post Office Box 3528, Fort Smith 72913.	452-2077
R	8roadwater, John R.	1500 Dodson, Fort Smith 72901.	782-2071
ORS	8rown, Byron L.	100 North 16th, Fort Smith 72901.	783-3604
RD	8rown, James A.	6810 South "T", Fort Smith 72903 (Res.)	452-1231
R	8rown, Richard N.	1501 South Waldron, Fort Smith 72903.	452-9416
ORS	8rown, Richard S.	Houston, Texas	
FP	8uie, James H.	1500 Dodson, Fort Smith 72901.	782-2071
FP	8usby, J. David	100 South 14th, Fort Smith 72901.	785-2431
PD	Cabell, Ben 8.	312 South 16th, Fort Smith 72901.	782-7921
R	Cassady, Calvin R.	Post Office Box 1827, Fort Smith 72902.	782-5035
P	Chambers, A. Pat.	1500 Dodson, Fort Smith 72901.	782-2071
AN	Chamblin, Don W.	1500 Dodson, Fort Smith 72901.	782-2071
AN	Chester, Robert L.	1500 Dodson, Fort Smith 72901.	782-2071
TS	Clemmons, Edward E.	522 South 16th, Fort Smith 72901.	785-1413
AN	Coffman, Edwin L.	1500 Dodson, Fort Smith 72901.	782-2071
NEP	Coleman, Michael D.	1500 Dodson, Fort Smith 72901.	782-2071
CRS	Crigler, Ralph E.	1500 Dodson, Fort Smith 72901.	782-2071
R	Crow, Neil E., Sr.	1500 Dodson, Fort Smith 72901.	782-2071
R	Culp, William C.	1501 South Waldron, Fort Smith 72903.	452-9416
RD	Cunningham, Charles S.	212 Mockingbird Lane, Poteau, Oklahoma 74953 (Res.)	918-647-4904
PTH	Davenport, Leo	922 Lexington, Fort Smith 72901.	785-1447
CD	Deaton, John M.	1500 Dodson, Fort Smith 72901.	782-2071
P	Desrochers, Paul E.	2112 South Greenwood, Fort Smith 72901.	785-2361
P	Dorzab, Joe H.	1500 Dodson, Fort Smith 72901.	782-2071
FP	Dudding, William F.	3120 Jenny Lind, Fort Smith 72901.	782-4986
NS	Dulligan, Michael P.	1500 Dodson, Fort Smith 72901.	782-2071
FP	Durmon, 8euford T.	100 South 14th, Fort Smith 72901.	785-2431
IM	Edmondson, Steve	1500 Dodson, Fort Smith 72901.	782-2071
O8G	Ellis, Homer G.	Post Office Box 3507, Fort Smith 72913.	785-2411
R	Erickson, Clark A.	1500 Dodson, Fort Smith 72901.	782-2071
OPH	Faier, S. Z.	1500 Dodson, Fort Smith 72901.	782-2071
ONC	Fecher, Dennis R.	1500 Dodson, Fort Smith 72901.	782-2071
U	Feder, Frederick P.	520 Lexington, Fort Smith 72901.	782-7261
FP	Feild, T. A., III	3600 North "O", Fort Smith 72904.	783-5158
OPH	Felker, Gary V.	3000 Rogers, Fort Smith 72901.	782-8892
AN	Fisher, Robert D.	1500 Dodson, Fort Smith 72901.	782-2071
PD	Floyd, Charles H.	617 South 16th, Fort Smith 72901.	783-3166
U	Francis, Darryl R., II	520 Lexington, Fort Smith 72901.	782-7261
OTO	Gedosh, Edgar A.	600 South 16th, Fort Smith 72901.	782-6022
R	Gill, James A.	Post Office Box 1827, Fort Smith 72902.	782-5035
CD	Gilliland, J. Campbell	1500 Dodson, Fort Smith 72901.	782-2071
PTH	Girkin, R. Gene	922 Lexington, Fort Smith 72901.	785-1447
O8G	Glover, D. Bruce	Post Office Box 3507, Fort Smith 72913.	785-2411
PS	Goodman, R. Cole	1500 Dodson, Fort Smith 72901.	782-2071
AN	Goodman, Raymond C.	1500 Dodson, Fort Smith 72901.	782-2071
EM	Graves, Stephen C.	7301 Rogers, Fort Smith 72903.	452-5100
N	Griggs, William L., III	1500 Dodson, Fort Smith 72901.	782-2071
U	Hamblin, David W.	2917 South 74th, Fort Smith 72903.	452-8400
ORS	Hathcock, Alfred 8.	1500 Dodson, Fort Smith 72901.	782-2071
GS	Hawkins, S. Wright	Post Office Box 3528, Fort Smith 72913.	452-2077
AN	Herren, Adrian L.	216-A North Greenwood, Fort Smith 72901.	783-1497
U	Hewett, Archie L.	600 South 14th, Fort Smith 72901.	785-2604
IM	Hinkle, Richard A., Jr.	1501 South Waldron, Fort Smith 72903.	452-8753
O8G	Hoffman, John D.	Post Office Box 3528, Fort Smith 72913.	452-2077
GS	Hoge, Marlin 8.	1501 South Waldron, Fort Smith 72903.	452-9316
CD	Holman, William A.	Post Office Box 3528, Fort Smith 72913.	452-2077
GS	Holmes, Williams C.	Post Office Box 3528, Fort Smith 72913.	452-2077
ADM	Hornberger, Evans Z., Jr.	1311 South "I", Fort Smith 72901.	441-5440
A	Howell, James T.	1420 South "I", Fort Smith 72901.	782-2983
OPH	Hughes, Robert P., Jr.	3000 Rogers, Fort Smith 72901.	782-8892
R	Huskison, William T.	1501 South Waldron, Fort Smith 72903.	452-9416
O8G	Hyde, Marshall L.	Post Office Box 3507, Fort Smith 72913.	785-2411

Type of Practice	Member's Name	Address	Telephone Number
FP.	Ingram, Ralph N.	1120 Lexington, Fort Smith 72901	785-2655
ORS.	Irwin, Peter J.	1500 Dodson, Fort Smith 72901	782-2071
GS.	Janes, Robert H.	1500 Dodson, Fort Smith 72901	782-2071
EM.	Jones, W. Duane	1311 South "I", Fort Smith 72901	441-5011
GYN.	Kelsey, J. F.	Post Office Box 3507, Fort Smith 72913	785-2411
RD.	Kennedy, Virgil N.	5417 Grand Avenue, Fort Smith 72904 (Res.)	452-3351
IM.	Kientz, John L. 8.	1500 Dodson, Fort Smith 72901	782-2071
CD.	Klopfenstein, Keith	1500 Dodson, Fort Smith 72901	782-2071
ORS.	Knight, W. E.	1500 Dodson, Fort Smith 72901	782-2071
END.	Kocher, David B.	Post Office Box 3528, Fort Smith 72913	452-2077
PTH.	Koenig, Albert S., Jr.	922 Lexington, Fort Smith 72901	785-1447
PTH.	Koenig, A. Samuel, III	922 Lexington, Fort Smith 72901	785-1447
OBG.	Kradel, R. Paul	Post Office Box 3528, Fort Smith 72913	452-2077
FP.	Kramer, Ralph G.	603 Lexington, Fort Smith 72901	783-8917
#.	Krock, Fred H.	Fort Smith	
FP.	Kutair, Kemal E.	1120 Lexington, Fort Smith 72901	785-2655
IM.	Lambiotte, Louis O.	1500 Dodson, Fort Smith 72901	782-2071
PTH.	Landrum, Annette V.	Post Office Box 1684, Fort Smith 72902	782-4983
GS.	Landrum, Samuel E.	522 South 16th, Fort Smith 72901	785-4181
OTO.	Lane, Charles S., Jr.	600 South 16th, Fort Smith 72901	782-6022
AN.	Lenington, Jerry O.	1500 Dodson, Fort Smith 72901	782-2071
IM.	Lewing, Hugh S.	404 South 16th, Fort Smith 72901	783-3158
D.	Lewis, John E.	1500 Dodson, Fort Smith 72901	782-2071
FP.	Lilly, Ken.	1120 Lexington, Fort Smith 72901	785-2655
NS.	Lockhart, William G.	1500 Dodson, Fort Smith 72901	782-2071
GS.	Lockwood, Frank M.	1500 Dodson, Fort Smith 72901	782-2071
ORS.	Long, James W.	1500 Dodson, Fort Smith 72901	782-2071
NS.	MacDade, Albert D.	1500 Dodson, Fort Smith 72901	782-2071
D.	Magness, Jack L., Jr.	Post Office Box 3528, Fort Smith 72913	452-2077
IM.	Marlin, Art B.	1500 Dodson, Fort Smith 72901	782-2071
FP.	Martin, Maurice C.	Post Office Box 426, Greenwood 72936	996-4111
OBG.	Mason, Joe N.	1500 Dodson, Fort Smith 72901	782-2071
GE.	Masri, Hassan M.	1500 Dodson, Fort Smith 72901	782-2071
GP.	Meador, Don M.	3600 North "O", Fort Smith 72904	783-5158
R.	Miller, Robert C.	1500 Dodson, Fort Smith 72901	782-2071
GS.	Mings, Harold H.	1500 Dodson, Fort Smith 72901	782-2071
OPH.	Moulton, Everett C., Jr.	3000 Rogers, Fort Smith 72901	782-8892
OPH.	Moulton, Everett C., III	3000 Rogers, Fort Smith 72901	782-8892
GS.	Mulder, George D.	912 Lexington, Fort Smith 72901	785-2616
ORS.	Mumme, Marvin E.	1500 Dodson, Fort Smith 72901	782-2071
RD.	Murchison, Roary A.	19 Haven Drive, Fort Smith 72901 (Res.)	782-5323
PD.	McClain, Merle E.	312 South 16th, Fort Smith 72901	782-7921
GP.	McDonald, H. P.	2044 North 29th, Fort Smith 72904	782-4833
OPH.	McEwen, Stanley R.	3000 Rogers, Fort Smith 72901	782-8892
FP.	McKinney, Robert	Post Office Box 426, Greenwood 72936	996-4112
IM.	McMinimy, D. J.	1500 Dodson, Fort Smith 72901	782-2071
PD.	Nassri, Louay	1500 Dodson, Fort Smith 72901	782-2071
IM.	Nichols, David R.	1500 Dodson, Fort Smith 72901	782-2071
D.	Niemann, Jeffrey M.	316 Lexington, Fort Smith 72901	783-1121
GS.	Olson, John D.	1500 Dodson, Fort Smith 72901	782-2071
GE.	Paris, Charles H.	Post Office Box 3528, Fort Smith 72913	452-2077
PD.	Parker, Joel E., Jr.	617 South 16th, Fort Smith 72901	783-3165
IM.	Parker, Stephen M.	3600 North "O", Fort Smith 72904	783-5158
R.	Parker, Thomas G.	1501 South Waldron, Fort Smith 72903	452-9416
TS.	Patrick, Donald L.	1500 Dodson, Fort Smith 72901	782-2071
IM.	Pence, Eldon D., Jr.	1501 South Waldron, Fort Smith 72903	452-8753
GYN.	Phillips, W. P.	Post Office Box 3507, Fort Smith 72913	785-2411
GP.	Pillstrom, Lawrence G.	1120 Lexington, Fort Smith 72901	785-2655
IM.	Poe, McDonald, Jr.	1501 South Waldron, Fort Smith 72903	452-8753
OBG.	Poole, M. Louis	1501 South Waldron, Fort Smith 72903	452-8158
CD.	Pope, John R.	1500 Dodson, Fort Smith 72901	782-2071
PD.	Post, James M., Jr.	617 South 16th, Fort Smith 72901	783-3165
IM.	Pradel, Paul A.	1501 South Waldron, Fort Smith 72903	452-8753
CD.	Prewitt, Taylor A.	Post Office Box 3528, Fort Smith 72913	452-2077
IM.	Price, Lawrence C.	404 South 16th, Fort Smith 72901	783-3158
OTO.	Raymond, Thomas H.	600 South 16th, Fort Smith 72901	782-6022
N.	Reul, Charles G.	1500 Dodson, Fort Smith 72901	782-2071
EM.	Reyenga, Stan.	1311 South "I", Fort Smith 72901	441-5011
R.	Rogers, Paul L.	1501 South Waldron, Fort Smith 72903	452-9416
FP.	Ross, R. Wendell	1120 Lexington, Fort Smith 72901	785-2655
R.	Russell, Rex D.	1500 Dodson, Fort Smith 72901	782-2071
AN.	Safranek, Edward J.	216-A North Greenwood, Fort Smith 72901	783-1497
GS.	Saviers, Boyd M.	1500 Dodson, Fort Smith 72901	782-2071
AN.	Schemel, William H.	216-A North Greenwood, Fort Smith 72901	783-1497
IM.	Schwarz, Paul R.	404 South 16th, Fort Smith 72901	783-3159
N.	Serrano, Ernest	1500 Dodson, Fort Smith 72901	782-2071
GYN.	Sherman, Robert L.	Post Office Box 3507, Fort Smith 72913	785-2411
GP.	Shermer, J. P.	623 South 21st, Fort Smith 72901	783-1520
ORS.	Sherrill, William M., Jr.	1500 Dodson, Fort Smith 72901	782-2071
PTH.	Sigler, John K.	922 Lexington, Fort Smith 72901	785-1447
ORS.	Skagerberg, David G.	1500 Dodson, Fort Smith 72901	782-2071
PTH.	Smith, Kent	922 Lexington, Fort Smith 72901	785-1447
R.	Snider, James R.	1500 Dodson, Fort Smith 72901	782-2071
IM.	Staggs, J. David	1500 Dodson, Fort Smith 72901	782-2071
ORS.	Stanton, William B.	300 North Greenwood, Fort Smith 72901	783-0225
PUD.	Stewart, Jerry R.	Post Office Box 3528, Fort Smith 72913	452-2077
GP.	Stewart, John B.	603 Lexington, Fort Smith 72901	783-8917
PS.	Still, Eugene F., II	1500 Dodson, Fort Smith 72901	782-2071
FP.	Swena, Richard R.	302 North 13th, Fort Smith 72901	785-2425
OBG.	Tate, William B.	1500 Dodson, Fort Smith 72901	782-2071
GP.	Thompson, James B.	605 Lexington, Fort Smith 72901	782-6081
RD.	Thompson, J. Kenneth	3804 Free Ferry Road, Fort Smith 72903 (Res.)	783-5711
GP.	Thompson, Robert J.	605 Lexington, Fort Smith 72901	782-6081
HEM.	Turner, William F.	1500 Dodson, Fort Smith 72901	782-2071
D.	Vanderpool, Roy E.	Post Office Box 3528, Fort Smith 72913	452-2077
FP.	Venturina, Art P.	Post Office Box 296, Huntington 72940	928-4404
CDS.	Vernon, Rowland P., Jr.	1500 Dodson, Fort Smith 72901	782-2071
U.	Wahman, Gerald E.	1500 Dodson, Fort Smith 72901	782-2071
OPH.	Wallace, Kenneth K.	3000 Rogers, Fort Smith 72901	782-8892
PD.	Walling, Robert V.	617 South 16th, Fort Smith 72901	783-3165
PD.	Watts, John C.	500 South 16th, Fort Smith 72901	783-1085
PUD.	Webb, William K.	Post Office Box 3528, Fort Smith 72913	452-2077
GS.	Weisse, John J.	912 Lexington, Fort Smith 72901	785-2616
IM.	Wells, John D.	Post Office Box 3528, Fort Smith 72913	452-2077

Type of Practice	Member's Name	Address	Telephone Number
EM.	Westbrook, Michael R.	1311 South "I", Fort Smith 72901	441-5011
AN	Westermann, Norman F.	1500 Dodson, Fort Smith 72901	782-2071
GYN	Whitaker, T. J., Jr.	1823 Dodson, Fort Smith 72901	782-4929
END.	White, J. Earle	1501 South Waldron, Fort Smith 72903	452-8661
A	Whiteside, Edwin	3416 Old Greenwood Road, Fort Smith 72903	646-8066
RD	Whittaker, L. A.	2300 South "T", Fort Smith 72901 (Res.)	782-9437
ORS	Wideman, John W.	300 North Greenwood, Fort Smith 72901	783-0226
GS	Wikman, John	1500 Dodson, Fort Smith 72901	782-2071
CDS	Williams, Carl L.	522 South 16th, Fort Smith 72901	785-1413
CD	Williams, Thomas N.	1500 Dodson, Fort Smith 72901	782-2071
OTO	Wills, Paul I.	600 South 16th, Fort Smith 72901	782-6022
U	Wilson, Carl L.	1500 Dodson, Fort Smith 72901	782-2071
U	Wilson, Morton C.	1500 Dodson, Fort Smith 72901	782-2071
U	Wilson, Steven K.	1500 Dodson, Fort Smith 72901	782-2071
GE	Wooddell, W. Jeff.	Post Office Box 3528, Fort Smith 72913	452-2077
CDS	Woods, Leon P.	1500 Dodson, Fort Smith 72901	782-2071
R	Worrell, John A.	1501 South Waldron, Fort Smith 72903	452-9416
GS	Zufari, Munir	522 South 16th, Fort Smith 72901	785-1413

SEVIER COUNTY

#	8alch, James I.	DeQueen	
GP	Brown, Olie D.	Post Office Drawer 890, DeQueen 71832	642-2465
FP	Buffington, Michael L.	Highway 70 West, DeQueen 71832	642-2022
FP	Carlson, Kevin R.	North 4th and Heynecker, DeQueen 71832	642-2840
FP	Daniel, J. Frank	Highway 70 West, DeQueen 71832	642-2022
GP	Dickinson, George W.	Route #7, Fayetteville 72701	
FP	Jones, Charles N.	Highway 70 West, DeQueen 71832	642-2022
GP	Pierce, Joseph S.	Post Office Drawer 890, DeQueen 71832	642-2465
FP	Ridlon, Richard S.	North 4th and Heynecker, DeQueen 71832	642-2840
R	Williams, W. Curtis	Highway 70 West, DeQueen 71832	584-4111

ST. FRANCIS COUNTY

FP	Cogburn, H. N.	328 Kittel Road, Forrest City 72335	633-1425
GP	Collins, E. Morgan, Jr.	1801 Lindauer Road, Forrest City 72335	633-1952
FP	Collum, Grady R.	Post Office Box 577, Hughes 72348	339-2111
FP	Crawley, Charles E.	328 Kittel Road, Forrest City 72335	633-1425
GP	Fong, Fun H.	Post Office Box 735, Hughes 72348	339-2373
FP	Hammons, Edward P.	328 Kittel Road, Forrest City 72335	633-1425
GP	Laney, J. Neal	1740 Lindauer Road, Forrest City 72335	633-4711
FP	McGuire, Sam A., III	328 Kittel Road, Forrest City 72335	633-1425
GP	McPhail, George T.	1801 Lindauer Road, Forrest City 72335	633-1952
FP	Seibel, Donald G.	318 East Cook, Forrest City 72335	633-5656
FP	Woollam, Christopher J.	318 East Cook, Forrest City 72335	633-5656

TRI-COUNTY

R	Allen, Lewis G.	Eastern Ozarks Community Hospital, Hardy 72542	257-3272
GP	Arnold, Carl B.	Post Office Box 457, Salem 72576	895-3281
GP	Benton, Thomas H.	Post Office Box 366, Salem 72576	895-3215
FP	Bozeman, Jimmy G.	Highway 9 North, Salem 72576	895-2541
GP	Ducker, David E.	Post Office Box 367, Salem 72576	895-3215
GS	Grasse, A. Meryl	Post Office Box 438, Calico Rock 72519	297-3726
FP	Meisenheimer, Martin P.	Post Office Box 1067, Cherokee Village 72525	257-3929
FP	Moody, Michael N.	Highway 9 North, Salem 72576	895-2541
GP	McCormack, John M.	Post Office Box 250, Mammoth Spring 72554	625-3228
P	Oglesby, Walter R.	Post Office Box 154, Cherokee Village 72525	257-2425

UNION COUNTY

U	Bowman, Raymond N.	619 North Newton, El Dorado 71730	862-5439
ORS	Callaway, James C.	705 West Faulkner, El Dorado 71730	863-6123
FP	Carroll, Peter J.	416 North Newton, El Dorado 71730	862-5573
GP	Clowney, A. R.	460 West Oak, El Dorado 71730	863-8116
OTO	Cyphers, Charles D.	519 West Faulkner, El Dorado 71730	862-3471
GP	Dunn, Tom L.	Post Office Box 538, Hampton 71744	798-4272
PTH	Duzan, Kenneth R.	443 West Oak, El Dorado 71730	862-1351
PTH	Elliott, Wayne G.	443 West Oak, El Dorado 71730	862-1351
IM	Ellis, Jacob P.	490 West Faulkner, El Dorado 71730	863-2381
RD	Fitch, Leston E.	38 Meadowbrook Drive, Conway 72032 (Res.)	329-3230
P	Fraser, David B.	715 North College, El Dorado 71730	862-7921
ORS	Giller, W. John, Jr.	705 West Faulkner, El Dorado 71730	863-6123
IM	Gray, Carlos E.	490 West Faulkner, El Dorado 71730	863-2286
IM	Hardin, Alvin S.	714 West Faulkner, El Dorado 71730	862-5184
GS	Harper, John W.	425 West Oak, El Dorado 71730	863-5135
ORS	Hartmann, Ernest R.	619 West Grove, El Dorado 71730	863-5146
FP	Hill, Grady E.	427 West Oak, El Dorado 71730	863-7158
PTH	Jennings, R. Duke	443 West Oak, El Dorado 71730	862-1351
GE	Jones, Steve A.	714 West Faulkner, El Dorado 71730	862-5184
D	Jucas, John J.	525 West Faulkner, El Dorado 71730	862-5485
R	King, B. D.	460 West Oak, El Dorado 71730	863-2587
OPH	Landers, Gardner H.	318 Thompson, El Dorado 71730	862-4216
GS	Menendez, Moises A.	412 North Washington, El Dorado 71730	862-3411
FP	Moore, Berry L.	490 West Faulkner, El Dorado 71730	863-2362
GS	Moore, John H.	412 North Washington, El Dorado 71730	862-3411
U	Murfee, Robert M.	619 North Newton, El Dorado 71730	862-5439
PD	McKinney J. Schuler	209 Thompson, El Dorado 71730	862-4994
R	Parkman, Robert L., Jr.	460 West Oak, El Dorado 71730	863-2588
R	Pellizzetti, A. G.	Post Office Box 1497, El Dorado 71730	864-3371
OTO	Pillsbury, Richard C.	423 Thompson, El Dorado 71730	863-0010
AN	Pinkerton, R. E.	700 West Grove, El Dorado 71730	864-3484
IM	Pirnieque, Allan S.	714 West Faulkner, El Dorado 71730	862-5184
O8G	Rabie, Fouad M.	431 West Oak, El Dorado 71730	863-4101
GP	Riley, Warren S.	Post Office Box 1982, El Dorado 71730	863-4508
PD	Rogers, Henry B.	209 Thompson, El Dorado 71730	862-4994
D	Sample, Dorothy C.	525 West Faulkner, El Dorado 71730	862-5485
R	Schultz, Wayne H.	460 West Oak, El Dorado 71730	863-2589
GS	Scurlock, William R.	412 North Washington, El Dorado 71730	862-3411
GP	Seale, James E., Jr.	528 West Faulkner, El Dorado 71730	863-7154
FP	Smith, George W.	704 West Grove, El Dorado 71730	862-7661
AN	Stevens, Willis M.	460 West Oak, El Dorado 71730	863-2275
FP	Sykes, Robert R.	416 1/2 North Newton, El Dorado 71730	862-5571
O8G	Thibault, Frank G., Sr.	416 North Newton, El Dorado 71730	862-5403

Type of Practice	Member's Name	Address	Telephone Number
GS	Tommey, C. E.	412 North Washington, El Dorado 71730	862-3412
O8G	Turnbow, R. L.	427 West Oak, El Dorado 71730	863-6157
PD	Vyas, Dileep	317 Thompson, El Dorado 71730	862-8961
FP	Warren, George W.	Post Office 80x W, Smackover 71762	725-3471
IM	Weedman, James B.	714 West Faulkner, El Dorado 71730	862-5184
OPH	Williamson, John R.	318 Thompson, El Dorado 71730	862-4216
IM	Wilson, Larkin M.	714 West Faulkner, El Dorado 71730	862-5184
OPH	Wilson, Paul H.	514 West Faulkner, El Dorado 71730	862-5352
OTO	Wise, J. F.	615 West Grove, El Dorado 71730	862-7918
IM	Wu, W. S.	317 Thompson, El Dorado 71730	863-5521
GS	Yocum, David M., Jr.	412 North Washington, El Dorado 71730	862-3411

VAN BUREN COUNTY

GP	Hall, John A.	Post Office 80x 310, Clinton 72031	745-2111
GP	Pearce, Charles G.	Post Office 80x 51, Clinton 72031	745-2412
RD	Read, Paul S.	Route 2, 80x 559-A, Fairfield 8ay 72088 (Res.)	884-3939
PS	Stuteville, Orion H.	Route 1, 80x 307, St. Joe 72675 (Res.)	439-2555
GS	Tahir, Syed Z.	Post Office 80x N, Clinton 72031	745-7161

WASHINGTON COUNTY

D	Albright, Spencer D., III	1925 Green Acres Road, Fayetteville 72701	443-3413
GP	Applegate, C. Stanley	220 Meadow Avenue, Springdale 72764	751-4637
ORS	Arnold, James A.	Post Office 80x 1608, Fayetteville 72702	521-2752
RD	Baggett, Jeff J.	Post Office 80x 233, Prairie Grove 72753 (Res.)	846-2312
OTO	Baker, C. Murl, Jr.	4255 Venetian Lane, Fayetteville 72701	521-1238
FP	Baker, Donald B.	241 West Spring, Fayetteville 72701	521-8260
FP	Benjamin, George H.	304 South Maxwell, Siloam Springs 72761	524-3141
GP	Box, Ivan H.	Post Office 80x 197, Huntsville 72740	738-2115
PTH	Boyce, John M.	607 Maple, Springdale 72764	751-5711
U	Brandon, H. B.	2100 Green Acres Road, Fayetteville 72701	442-5229
RD	Brizzolara, Charles M.	5512 South Grandview, Little Rock 72207 (Res.)	666-5977
U	Brooks, W. Ely	Route 9, 80x 219, Fayetteville 72701	521-8980
OPH	Brown, Craig	Post Office 80x 3058, Fayetteville 72701	521-5931
P	Brown, Spencer H.	4313 West Markham, Little Rock 72201	664-4500
FP	Buckley, Carrie D., Jr.	Post Office 80x 959, Fayetteville 72702	442-2822
PD	Burnside, Wade W.	207 East Dickson, Fayetteville 72701	443-3471
IM	Butler, G. Harrison	675 Lollar Lane, Fayetteville 72701	521-8200
FP	Capps, James A., Jr.	Post Office 80x 1203, Fayetteville 72702	521-0610
R	Cherry, James F.	607 Maple, Springdale 72764	751-5711
RD	Clark, LeMon	1679 Elmwood, Fayetteville 72701 (Res.)	521-7657
ORS	Coker, Tom P.	Post Office 80x 1608, Fayetteville 72702	521-2752
O8G	Cole, George R.	740 Lollar Lane, Fayetteville 72701	521-4433
O8G	Councille, Clifford C.	1011 North College, Fayetteville 72701	442-9809
NEP	Crittenden, David R.	100-A East Poplar, Fayetteville 72701	442-5295
OTO	Crocker, Thermon R.	4255 Venetian Lane, Fayetteville 72701	521-1238
FP	Dean, David B.	304 South Maxwell, Siloam Springs 72761	524-3141
PD	Decker, Harold A.	207 East Dickson, Fayetteville 72701	443-3471
O8G	DeSandre, Frank A.	606 South Young, Springdale 72764	751-6284
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IM	Duncan, Philip E.	675 Lollar Lane, Fayetteville 72701	521-8200
R	Edmondson, Charles T.	607 Maple, Springdale 72764	751-5711
FP	Etherington, Robert A.	41 Kingshighway, Eureka Springs 72632	253-9746
P	Finch, Stephen B.	530 North College, #E, Fayetteville 72701	443-3491
OTO	Fincher, G. Glen	2100 Green Acres Road, Fayetteville 72701	521-3363
RD	Gardner, Buford M.	856 Crossover Road, Fayetteville 72701 (Res.)	443-3174
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R	Greenhaw, James J.	205 East Jefferson, Siloam Springs 72761	524-4141
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ORS	Harris, W. Duke	Post Office 80x 1608, Fayetteville 72702	521-2752
O8G	Harrison, William F.	1011 North College, Fayetteville 72701	442-9809
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O8G	Mashburn, James D.	207 East Dickson, Fayetteville 72701	442-5377
GS	Miller, Charles H.	1749 North College, 80x A, Fayetteville 72701	521-3300
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RD	McAllister, Max F.	329 Oakwood Street, Fayetteville 72701 (Res.)	442-6522
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FP	Patrick, James K.	241 West Spring, Fayetteville 72701	521-8260
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RD	Brown, Arnold R.	1105 Dobbins, Searcy 72143 (Res.)	268-2545
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IM	Fincher, Clark	2900 Hawkins, Searcy 72143	268-5364
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GPM	Smith, Bernard C.	Post Office Drawer C, Bradford 72020	344-2788
N	Smith, Bob W.	Post Office Box 858, Searcy 72143	268-9815
PD	Stinnett, J. L., Jr.	2900 Hawkins, Searcy 72143	268-5364
FP	Tate, Sid	1300 South Main, Searcy 72143	268-5388
CD	Weathers, Larry W.	Post Office Box 20, Searcy 72143	268-9869
PD	Weed, David H.	2900 Hawkins, Searcy 72143	268-5364
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FP	Wilson, Fred E.	Post Office Box 387, McCrory 72101	731-2511

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GP	Harris, Walter P.	Post Office Box 487, Danville 72833	495-2714
FP	Hodges, Jerry F.	Post Office Box 337, Dardanelle 72834	229-4172
FP	Luker, Jerome H.	Post Office Box 337, Dardanelle 72834	229-4172
GP	Martin, Damon G. H.	Post Office Box 328, Ola 72853	489-5801
GP	Maupin, James L.	Post Office Box 337, Dardanelle 72834	229-4172
GP	Pennington, James O.	Post Office Box 68, Ola 72853	489-5241
FP	Ring, Gene D.	Post Office Box 337, Dardanelle 72834	229-4172
GP	Russell, Gary W.	Highway 22 West, Dardanelle 72834	229-4172

CODES FOR TYPE OF PRACTICE

A.....Allergy	HEM.....Hematology	PDC.....Pediatric Cardiology
ADM.....Administrative Medicine	IM.....Internal Medicine	PH.....Public Health
AN.....Anesthesiology	NEP.....Nephrology	PM.....Physical Medicine and Rehabilitation
CD.....Cardiovascular Diseases	N.....Neurology	PS.....Plastic Surgery
CDS.....Cardiovascular Surgery	NM.....Nuclear Medicine	PTH.....Pathology
CHP.....Child Psychiatry	NS.....Neurological Surgery	PUD.....Pulmonary Diseases
CRS.....Colon and Rectal Surgery	OBS.....Obstetrics	R.....Radiology
D.....Dermatology	OBSG.....Obstetrics and Gynecology	RHU.....Rheumatology
EM.....Emergency Care	OM.....Occupational Medicine	TS.....Thoracic Surgery
END.....Endocrinology	ONC.....Oncology	U.....Urology
FP.....Family Practice	OPH.....Ophthalmology	OS.....Other Specialty
GE.....Gastroenterology	ORS.....Orthopaedic Surgery	RD.....Retired
GER.....Geriatrics	OT.....Otology	+-.....Medical Student
GP.....General Practice	OTO.....Otorhinolaryngology	*.....Intern
GPM.....General Preventive Medicine	P.....Psychiatry	**.....Resident
GS.....General Surgery	PD.....Pediatrics	F.....Fellow
GYN.....Gynecology	PDA.....Pediatric Allergy	#.....Deceased

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WATS: 1-800-542-1058

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Chicago, Illinois 60610
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Little Rock, Arkansas 72201
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Little Rock, Arkansas 72205
Phone: 664-3402

University of Arkansas College of Medicine
Thomas A. Bruce, M.D., Dean
4301 West Markham
Little Rock, Arkansas 72201
Phone: 661-5000

Meeting Dates

Arkansas Medical Society

Thursday, April 29-Sunday, May 2, 1982, Arlington Hotel, Hot Springs
Thursday, April 21-Sunday, April 24, 1983, Arlington Hotel, Hot Springs
Thursday, April 12-Sunday, April 15, 1984, Camelot Inn, Little Rock

American Medical Association
House of Delegates

Annual Meeting June 13-17, 1982	Chicago
Interim Meeting December 5-8, 1982	Miami Beach
Annual Meeting June 19-23, 1983	Chicago
Interim Meeting December 4-7, 1983	Los Angeles

American Medical Association
Leadership Conference

February 25-28, 1982	Downtown Chicago Marriott, Chicago
February 17-20, 1983	Downtown Chicago Marriott, Chicago

Arkansas Medical Society Insurance Plans

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American Physicians Insurance Exchange
4099 McEwen Road, Suite 200
Dallas, Texas 75234
Phone: (Toll free from Arkansas) 1-800-527-1414
(Toll free from Texas) 1-800-442-0939

Professional Liability

The St. Paul Companies
Little Rock Service Office
108 North Shackleford Road
Little Rock, Arkansas 72211 Phone: 223-6700

Professional Overhead Expense Plan
Professional Men's Disability Plan

Rather, Beyer and Harper, Agents
362 Prospect Building
Little Rock, Arkansas 72207 Phone: 664-8791

Life

Northwestern National Life Insurance Company
Meyer F. Marks, Inc.
Post Office Box 7267
Little Rock, Arkansas 72217 Phone: 664-7802

Medical, Surgical, Major Medical

Arkansas Blue Cross-Blue Shield
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Little Rock, Arkansas 72203 Phone: 378-2000

Workmen's Compensation Dividend Plan

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Kansas City, Missouri 64141 Phone: 816-361-3400

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ARKANSAS MEDICAL SOCIETY

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Recognition and Management of Sick Cell Anemia and Patients With Cholelithiasis

E. Stevers Golladay, M.D.,* and Anthony R. Burton**

The elongated or sickled red blood cells were first viewed and reported by James B. Herrick in 1910 as he examined the bloodsmear of a 20-year-old Jamaican medical student.¹ It was 40 years before Pauling, et al, demonstrated by electrophoresis that the hemoglobin of sickle cell anemia was abnormal.² A molecular definition of that abnormality, substitution of a neutrally charged valine for a negatively charged glutamic acid at the 6th position from the N-terminal end of the beta chain, was described by Ingram in 1956.³ Much attention has since been drawn to recognition of the sickling phenomenon, but the manifestations of SS anemia are protean and difficulties exist in the interpretation and management of abdominal pain in patients with SS.

BACKGROUND

Herrick recognized the indirect jaundice associated with hemolysis in SS anemia.¹ The hemolytic process in this disease and other chronic hemolytic states is associated with an increased incidence of gallstones.⁴⁻¹⁰ When a hemolytic crisis occurs, a patient can have pain involving bones, joints, the chest, or the abdomen. Only recently have physicians been aware that biliary tract disease can be a cause of abdominal pain in a patient with SS disease.^{6, 7, 10, 11, 16, 18, 19, 20} The elevation of bilirubin and liver enzymes commonly seen during crisis, and the similar signs and symptoms can make difficult the differentiation of biliary tract disease from sickle crisis. (Table I)

TABLE I

USUAL LAB RESULTS WITH SS PATIENT

1) Hgb 6-10 mg per 100 ml

- 2) Hct 18-25 percent
- 3) WBC 10,000 to 100,000 per mm³
- 4) Reticulocyte count 5-30 percent
- 5) Urobilinogen present 50 percent
- 6) Serum bilirubin total usually 2-5mg per 100 ml
 - a) Most cases direct greater than 0.7 mg per 100 ml³⁰
 - b) If total bilirubin greater than 6 mg% then direct bilirubin will be one-half no matter what the cause of jaundice.³
 - c) Bilirubin greater than 30 mg% indicates possible concomitant viral hepatitis — Draw HBsAg.³⁴
- 7) SGOT 20-2000 units (wide variation). If greater than 300 units usually associated with viral hepatitis but cases of cholelithiasis have been reported with values greater than 500 units. Elevated about 80% of all cases.³⁰
- 8) Alkaline phosphatase 2-15 Bodansky units. Poor guide to presence of stones in SS patients; can be elevated with no biliary tract disease and is elevated in most patients with elevated direct bilirubin.³
- 9) LDH 325-3,530 units; elevated in 100% of patients reviewed by Rosenblate.³⁰
- 10) Prothrombin time ranges from 100% of control to below 60% in one-third of patients with hepatic crisis.³⁴
- 11) SGPT 7-380

About 8 percent of the American Black population has SS trait (HbsA), and 0.2 percent have the homozygous (HbSS) or anemic form of SS disease.²¹ These sickled cells are mechanically more fragile and the resultant destruction rate can cause hemolytic jaundice, bone marrow hyperplasia and the presence of immature reticulocytes (5-30 percent) in the peripheral blood.^{22, 23}

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Fetal hemoglobin provides protection against sickling for the first 4 to 6 months of life, but then decline of hemoglobin F levels heralds a chronic hemolytic anemia.^{17,21} Individuals with sickle cell trait remain asymptomatic until they become hypoxic, but then have typical episodes of hemolytic crisis.

Sickle cell anemia is characterized by chronic anemia with hemoglobin content usually 5 to 9 gm per 100 ml upon which acute crises are superimposed.²¹ These crises are of two types: 1) hematologic crises due to hypoxia and erythrocyte sequestration in the spleen and other reticulo-endothelial organs; 2) painful crises resulting from vascular obstruction by the elongated red sickled cells.²³ The pain crises present with malaise, pyrexia, infarction which can occur in any part of the body, leukocytosis (up to 100,000 per cubic mm), jaundice, and abdominal pain.²³ The red blood cells in sickle cell patients have an average life span of 10-15 days and this increased destruction results in hemolytic jaundice with the predominant increase usually in the unconjugated (indirect) bilirubin fraction. The total bilirubin levels usually range from 2 to 5 mg/100 ml.^{4,21,23} Painful crises are often severe and may be associated with the signs and symptoms of an acute surgical abdomen. Abnormalities of liver function suggestive of obstructive jaundice, can make differentiation of calculus biliary tract disease from the pain crisis quite difficult.^{8,9,11,15,16} The purpose of this paper is to review the current literature regarding the incidences and significance of biliary tract disease, in particular cholelithiasis, and provide some guidelines in the management of sickle cell disease during the perioperative period.

MANAGEMENT

Few physicians would have trouble managing a typical SS patient with classical signs and symptoms of cholecystitis and documented gallstones. This, however, is not the usual presentation of the SS patient and each physician should develop a systematic approach to the management of those children with ambiguous signs and symptoms suggesting involvement of the biliary tract. The difficulty is in discerning the surgical SS patient from the medical. (Table II) Each requires stabilization with fluids, analgesics, sedatives, oxygen, and probably antibiotics.²³ Attention should be directed to the following variables in the history and physical examination: past multiple

TABLE II
WORK-UP OF PATIENTS WITH SICKLE CELL DISEASE TO "RULE-OUT" HEPATOBILIARY DISEASE

- I. Hemoglobin electrophoresis to confirm HbSS
- II. Fluids, analgesics, oxygen, sedatives, and antibiotics to stabilize patient if in crisis
- III. History and Physical
Note: 1) Multiple painful crises and number of hospitalizations
2) Increase in abdominal pain especially if right upper quadrant, colicky, and associated with fatty meals
3) Previous blood transfusions
4) Previous operations, radiographic studies — cholecystograms or ultrasound
5) Fever, nausea, vomiting, diarrhea
6) Malaise, headache, chills, pruritus
7) Jaundice, dark urine, pale stools
8) Enlarged, tender liver
9) History of alcohol intake
10) Previous lab values especially Bilirubin, SGOT, SGPT, LDH, Alkaline Phosphatase, Prothrombin time
- IV. Routine Lab
1) CBC, reticulocyte count, electrolyte
2) SGOT, SGPT, Bilirubin — Total and Direct, Alkaline Phosphatase, LDH, Prothrombin time
3) Urinalysis — urobilinogen
4) HBsAG
5) Chest roentgenogram and flat plate abdominal roentgenogram

RECOMMENDATIONS

- I. Abdominal flat plate roentgenogram on any patient (SS) with abdominal liver function test and elevated bilirubin or abdominal pain in RUQ.
- II. Ultrasound if
1) Child is over 10 years of age, on annual basis
2) If patient is acutely ill with right upper abdominal pain
3) Bilirubin direct fraction greater than 50% when bilirubin is less than 6 mg percent
4) Altered liver function tests
- III. Percutaneous transhepatic cholecystography (PTC) and/or endoscopic retrograde cholan-

giography — obviate problems of ingestion, absorption, and hepatic excretion and are good for demonstrating biliary tree but are invasive and are technically more difficult.

- IV. If gallbladder and biliary tree are normal but liver functions are grossly abnormal (Bilirubin greater than 10 mg%, SGOT greater than 300 and patient is symptomatic, then HBsAg, percutaneous liver biopsy to “rule-out” viral hepatitis, hepatic crises, intrahepatic cholestasis (choangiolar hepatitis), or cirrhosis rather than doing exploratory laparotomy. We do not recommend corticosteroid suppression test.

painful crises; differences from past presentations; transfusion history; presence of nausea, vomiting or fever; increasing signs and symptoms of jaundice, dark urine, acholic stools; fatty food intolerance; or colicky right upper quadrant pain. Alkaline phosphatase, SGOT, SGPT, and LDH can be expected to be abnormal. The prothrombin time, however, may or may not be prolonged and deranged values may be helpful in distinguishing medically manageable liver abnormalities from acute cholecystitis in SS patients.⁴

The differential diagnosis in SS patients with signs and symptoms of hepatobiliary disease should include: 1) “Hepatic crises”; 2) Intrahepatic cholestasis; 3) Viral hepatitis; 4) Cirrhosis; 5) Congenital abnormalities; 6) Concomitant Glucose-6 Phosphatase deficiency. Diggs reported that 10 percent of SS patients have jaundice secondary to intrahepatic “regurgitant jaundice”.^{24,25} Attacks of hepatic crises are characterized by right upper quadrant pain, jaundice, hepatomegaly, fever, leukocytosis and dark urine.²⁵ Often bone or joint pain can occur as well. Differentiation of hepatic crises from cholecystitis, biliary lithiasis or hepatitis is difficult. The total bilirubin level, however, seldom exceeds 15 mg percent and SGOT levels are usually less than 300 international units in regurgitant jaundice.²⁵ Liver biopsy is definitive and shows sinusoidal obstruction and engorgement by sickle cell thrombi, Kupffer cell hypertrophy of sinusoids, hemosiderosis, bile stasis and mild centrilobular necrosis in “hepatic crises”.^{24,25}

Intrahepatic cholestasis is rare, but is a severe form of liver crisis, also known as “choangiolar hepatitis” or obstructive choangiolar-like jaundice, was first described by Green.¹⁴ The sudden

onset of abdominal or right upper quadrant pain, increasing jaundice, a progressively enlarged liver, acholic or light stools, and bilirubinemia without urobilinogenuria characterize choangiolar hepatitis. Common duct obstruction is absent and it is probably a result of vascular sickling and macrophage disruption of vascular integrity.²⁵ Microscopically, these patients have features similar to hepatic crises, but there is a more intense reaction with increased lymphocytic infiltration and increased connective tissue and paracentral necrosis. Cholestasis and dilated canaliculi containing bile plugs are also prominent features.²⁵

Viral hepatitis is an unusual complication with patients with SS anemia. Symptoms of viral hepatitis such as malaise, jaundice, abdominal pain, nausea, dark urine, headache, fever, diarrhea, chills and pruritis lead to a diagnosis of viral hepatitis in only 5 of 88 SS patients with 378 admissions for SS crises reported by Sheely.²⁵ SS patients already have damaged livers and with superimposed viral hepatitis, the bilirubin level usually exceeds 30 mg per 100 ml. In a known sickler with signs and symptoms consistent with hepatitis, B surface antigen (HBsAG) levels or liver biopsy is confirmatory evidence of viral infection.

Cirrhosis is relatively common in SS disease.²⁵ Green reported 4 of 21 SS patients and Song reported 9 of 31 patients with macronodular or post-necrotic cirrhosis at autopsy.¹⁴ Microscopically, the liver biopsy demonstrated agglutinated sickled thrombi and Kupffer cell hypertrophy.^{24,14} Patients with advanced liver disease may develop hepatic encephalopathy or develop fatal bleeding diathesis. Song stressed that liver lesions in SS patients are probably a progressive process through hepatic syndromes such as “hepatic crises” and “intrahepatic crises”, and “intrahepatic cholestasis” and may be worsened or accelerated by viral infections or alcohol.²⁵

It is estimated that 20 million Americans have gallstones.²¹ Autopsy studies in the United States have found them to be present in 20 percent of women and 8 percent of men.²⁶ Most cholesterol stones are mixed containing more than 70 percent cholesterol monohydrate plus calcium salts, bile acids, bile pigments, fatty acids, protein, and phospholipids.^{21,26} Pigmented stones are primarily calcium bilirubinate and contain less than 10 percent cholesterol. Only 15 to 20 percent of gallstones contain enough calcium for visualiza-

tion on plain radiographic films of the abdomen.^{21, 26} The evidence of biliary disease in persons 20 years old or younger is only about 4 percent, and is most prevalent in older teenagers.¹⁸ According to recent reports, however, there seems to be an increasing incidence of gallbladder and common duct disease in children and early adolescents.^{27, 28} Although cholelithiasis in childhood is commonly associated with hemolytic disease, Holcomb noted that out of 99 children operated upon for extrahepatic biliary tract disease, 74 were proven to have cholelithiasis not resulting from a hemolytic process.¹⁹ Most of the patients in his series were between 16 and 18 years of age and 65 percent had been pregnant prior to the diagnosis of cholelithiasis. Soderlund and Zetterstrom presented 57 children with cholelithiasis and only three had hemolytic anemia.²⁹ Another review of 244 cases of cholecystitis in children by Biennner and Stewart demonstrated a 60 percent incidence of cholelithiasis, but only an 8.6 percent incidence of hemolytic anemia.³⁰

The pre-1960 incidence of cholelithiasis in patients with SS disease varies from 6 to 37 per-

cent.^{4, 5, 32} This wide variation could reflect inclusion of patients less than 10 years of age, as well as those cases reported before hemoglobin electrophoresis permitted identification of patients with non-homozygous SS trait.^{4, 9} In most early series, less sophisticated techniques were used in the detection of cholelithiasis and some, indeed, represented only those which were clinically obvious. The incidence of cholelithiasis in SS patients ranges from 17 percent in patients 10 to 19 years of age to 71 percent in patients over 30.⁶ Lachman, in 1979, reported an incidence of approximately 11 percent in patients less than 10.²⁰ These and other studies (Table III) indicate that the incidence of gallstones in SS patients is high and increases considerably with age. In an analysis of the recent literature, the incidence of cholelithiasis in children age 0 to 9 years was 15 percent, age 10 to 19 years 30 percent, age 20 to 29 years 39 percent and greater than 30 years 42 percent (Table III).

The diagnosis of cholelithiasis and/or cholecystitis in SS patients is often difficult. It is not frequently considered in patients less than 20

TABLE III
INCIDENCE OF CHOLELITHIASIS IN SICKLE CELL DISEASE
Age of Patients in Years

<i>Authors</i>	<i>Year</i>	<i>0-9 Yrs.</i>			<i>10-19 Yrs.</i>			<i>20-29 Yrs.</i>			<i>30 Yrs.-Older</i>			<i>Diagnostic Method</i>
		<i>No. Pts.</i>	<i>No. With Stones</i>	<i>Pct.</i>	<i>No. Pts.</i>	<i>No. With Stones</i>	<i>Pct.</i>	<i>No. Pts.</i>	<i>No. With Stones</i>	<i>Pct.</i>	<i>No. Pts.</i>	<i>No. With Stones</i>	<i>Pct.</i>	
Weens	1945				21	2		13	5		10	5		Autopsy
Mintz	1955				21	2								Radiography
Barrett														
Connor	1968				11	4		18	6		11	5		OCG, Routine Roentgenogram, Surgery, or Autopsy, IVC, PTC
Cameron	1971				94	20		30	6		23	7		Roentgenogram, OCG, IVC, Surgery
Phillips														
Gerald	1971				12	2	17	16	10	62	7	5	71	Radiography
Golding	1973				6	2		13	6		16	5		Oral Cholecystogram, Scout Abd. X-ray, IV Cholangiogram, Exp. Lap Autopsy
Lachman	1979	19	2	10.5	12	7	58							Abdominal Scout Radiography, Ultrasound, OCG, IVC
Karayalcin	1979	26	2	8	21	6	28							Oral Cholecystogram and Cholecystosonogram
Sarnaik	1980	116	20	17	110	43	39							Ultrasound
Stephens	1980	30	5		27	14	52	27	13	48	16	8	50	Roentgenogram, OCG, Ultrasound, Autopsy
TOTAL		191	29	15%	335	102	30%	117	46	39%	83	35	42%	

years of age and characteristic features of cholecystitis occur so frequently with painful crises of SS that the possibility of cholecystitis is often overlooked as the etiology of the pain. The diagnosis of cholecystitis should be considered in any child with the classic right upper quadrant pain, vomiting, and fever in the absence of another obvious etiology.^{17, 18, 19, 20, 28, 31} Laboratory examination is of little help as abnormal liver function tests are inherent to SS anemia.⁴ Contrary to past beliefs that pigmented stones do not cause biliary obstruction, these calculi, usually found in hemolytic disease, can cause obstruction of the common bile duct and a 20 percent incidence of obstructive jaundice in SS patients with acute biliary tract symptoms has been reported.^{9, 11, 37} The composition of gallstones, whether pigmented or cholesterol, determines neither the occurrence nor the severity of biliary symptoms.³⁶

The diagnosis of cholelithiasis must rest primarily on roentgenographic studies. Supine abdominal radiographs will demonstrate gallstones in 15 to 20 percent of patients with cholelithiasis.²⁶ Most patients with SS, with or without cholelithiasis, have a functioning gallbladder, which can be demonstrated by oral cholecystography (OCG). OCG may be diagnostic in SS disease despite serum total bilirubin levels as high as 5 mg. percent.^{4, 21, 26, 27} Ultrasonography is a more useful tool for nonvisualization of the gallbladder with OCG may indicate either obstruction of the cystic duct, failure of hepatic excretion or lack of concentration of the dye by the gallbladder. It may also result from failure of the patient to ingest the oral contrast substance or decreased absorption due to the vomiting or diarrhea.

Ultrasonography is a more useful tool, as the bilirubin does not affect the diagnostic accuracy. It may also demonstrate dilatation of the common bile duct, thickening of the gallbladder wall, or the presence of biliary sludge.³⁸ The accuracy of ultrasound ranges from 64 to 93 percent with a 0 to 5 percent false positive and 2.4 to 15.1 percent false negative rate.^{40, 41} Ultrasonography is noninvasive, can be done immediately and can identify stones 3 mm in diameter or greater with a considerable degree of accuracy.³⁹

In the patient with grossly abnormal liver function tests and/or equivocal radiographic and ultrasonographic studies, biliary imaging with TcPIPIDA may be accurate to bilirubin levels of

8 mg percent. Corticosteroids have been used to lower the serum bilirubin to a level permitting oral cholecystography.⁴ Percutaneous transhepatic cholangiography is useful in defining extrahepatic obstruction in the jaundice patient, but should be used only when surgery can be performed promptly after a positive test.⁴ Failure to find dilated biliary ducts is strong evidence against extrahepatic obstruction.^{4, 21, 26}

With increased life expectancy and better medical care, a larger number of SS patients will be expected to develop cholelithiasis and subsequently have symptoms to confuse with sickle crisis. The incidence of severe, recurrent symptomatology and complications of calculous biliary tract disease is 40 to 50 percent with an overall mortality of 2.7 percent within the first 5 years in unoperated patients with gallstones and SS disease.³⁴

Lund suggests that truly asymptomatic gallstones are rare and the prognosis of asymptomatic patients is similar to those with symptoms.³⁴ Stephens, et al, reported that 6 of 12 patients with asymptomatic cholelithiasis for whom elective surgery was initially deferred, required cholecystectomy within 3 years.¹³ Of the six who were operated, four had significant complications.

The patient who has symptoms compatible with biliary tract disease and/or proven biliary tract disease should have elective cholecystectomy.^{4, 9, 11, 16, 33} The SS patient with asymptomatic cholelithiasis presents more of a dilemma. Most authors believe elective cholecystectomy should be done to avoid occurrence of acute cholecystitis under less ideal conditions.^{4, 13, 16, 33, 34, 35}

Operation should be particularly avoided during sickle cell crises because of the poor risk with emergency cholecystectomy in SS patients.^{4, 13, 17, 37, 12} Accelerated splenic sequestration as a result of the stress of emergency operation may result in severe, occasionally fatal erythrocyte deficiency. SS patients are properly prepared with attention to hydration and oxygen requirements, morbidity and mortality is comparable to that of non-SS patients.⁴

Among nonsicklers between the ages of 7 and 39 years of age, less than 1 percent mortality is reported and a maximum of 30 percent morbidity should result from cholecystectomy with uncomplicated cholelithiasis.^{11, 34}

SS disease patients requiring operations have increased risk because slight decreases in pH,

PO₂, blood flow, blood volume, and temperature may potentiate vaso-occlusive crisis.^{9,22,39} Perioperative management involves strict physiologic control and most authors advocate some form of perioperative transfusion with preference being given to serial transfusions beginning 10 to 15 days prior to elective operations.^{22,42} Two volume exchange transfusions for urgent or emergency operations have been recommended. Ariyan, et al, reported a collected morbidity rate of 34 percent.¹⁶ Janik and Seeler, at Cook County Hospital, reported no morbidity or mortality in 46 surgical procedures performed on children with a major sickle hemoglobinopathy using a preoperative transfusion of 15-20 cc/kg packed erythrocytes to produce a hematocrit of at least 36 percent.⁴² Oxygen should be administered and every effort should be made to maintain the pO₂ between 85 and 95 torr in the peri-operative period. During crisis, preoperative hydration by administration at 3 ml per kg per hour with 1/4 normal saline to which 20 mEq per liter of sodium bicarbonate has been added is recommended and continuation of adequate hydration during operative periods to maintain urine output in the range of 2-3 cc per kg per hour. For elective operations, the serial transfusion technique is begun as an outpatient 10 to 15 days prior to the intended date of surgery by giving 10 ml of packed cells per kg of body weight and repeating every 3 or 4 days until the hematocrit stabilizes at about 38 to 40 percent.^{9,22} Burrington and Smith first described this technique and report HbSS levels to be less than 2 gram percent by the tenth day of therapy.²² When prepared in this fashion, the patient may undergo elective surgery with complications quite similar to that a nonsickle populace experiences.^{9,22} Intraoperatively, the patient must be kept warm and an anesthetic technique utilizing high oxygen concentrations is obviously necessary. Careful attention to pulmonary physical therapy is essential to prevent pneumonia which has a 100 times incidence in the SS as in the normal populace. At Arkansas Children's Hospital, five patients, age range 11-18 years, three females and two males, have had cholecystectomies following these principles and we have not had complications to date.

It is important to note that effectiveness with which cholecystectomy alters the clinical course of patients with SS and gallstones. (Table IV) Ariyan, et al, reported 57 patients that had been

followed after cholecystectomies, at least nine continued to have abdominal crises or jaundice with no improvement as a result of operation. However, 29 (51 percent) have been relieved of abdominal pain, with a followup in some as long as 6 years.¹⁶ We have reviewed a total of 121 cholecystectomies with documented gallbladder disease, 29 percent had postop complications, there were no deaths, and 92 percent were asymptomatic after 1 year or more. (Table IV)

SUMMARY

In conclusion, since it is difficult to distinguish between abdominal sickle crises and hepatobiliary tract disease, it is recommended that all patients with subjective abdominal complaints and/or liver function test abnormalities have routine ultrasound, or other studies to demonstrate function of the gallbladder and possible presence of gallstones.^{7, 6, 19, 20, 31, 40} If gallstones are present or the gallbladder does not visualize, elective cholecystectomy, after the patient is adequately prepared, is the treatment of choice and will simplify management of subsequent bouts of abdominal pain and reduce the incidence of severe symptoms or complications which may require surgery during SS crises.

Careful monitoring, hydration, and preoperative blood transfusions allow elective operations to be performed on SS patients with no greater risk than those without the disease.^{9, 11, 12, 22, 33, 37}

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TABLE IV
REVIEW OF EFFECTS OF CHOLECYSTECTOMY ON SICKLE CELL PATIENTS

<i>Authors Years</i>	<i>No. Patients</i>	<i>Preop Signs and Symptoms</i>	<i>Postop Complications</i>	<i>Postop Deaths</i>	<i>Outcome and Followup</i>
Barrett Connor 1968	10	Salmonellosis, Serum Bilirubin 1.48-81.1, Direct Bil. 0.33-47.53 Roentgen- ogram (5), Jaundice RUQ pain, Fatty food intolerance	1) Salmonell osteomyelitis 1) Wound dehiscence 1) Subhepatic abscess 1) Wound infection (4)	None	4 had recurrent pain and jaundice, 2 had recurrent jaundice, followup was 3-16 years, 4 totally asymptomatic 1-6 years 6 Recur. Sx. 4 Asymp.
Cameron 1971	10	Nonvis of GB OCG (2) Fatty food intolerance, Acute inflammation (4) Abdominal pain, Jaundice Fever, Roentgenogram Stone (1) IVC Stone (2)	No significant	None	1) Recurrent pain and Jaundice 9) Asymptomatic
Flye Silver 1972	20	Recurring RUQ pain (18) Roentgenogram (13 OCG (4), Nonvis GB Stones after OCG (3)	3) Pneumonia 3) Temp. elevation 2) Hypotension 1) Grand mal seizure (9)	None	2 wks to 2 yr followup. Several had symptoms 2° to Sickle crises which previous surgery led to more precise Dx. of re- curring abdominal pain. (20 Asymp.) None related to surgery
Spigelman Warden 1972	8	Abdominal crises, Jaun- dice, Nonvis GB after double dose OCG (4) OCG Stone (3) Roentgenogram (1)	3) Wound infection 1) Pneumonia 1) Pleural effusion 1) Hematuria (6)	None	1) had recurrent pain and jaundice 8) Asymptomatic after 1-2 year followup
McPhillips Bickers 1972	16 (Elective)	All had either non-func- tioning or cholelithiasis demonstrated by OCG. All had Sx. compatible with gallbladder disease.	Atelectasis (2) Jaundice (1) (3)	None	
MacMillan 1974	3	Jaundice, OCG revealed either stones or nonvis- ualization	Pneumonia (1) (1)	None	
Karayalcin 1979	8	Recurrent abdominal pains in RUQ. All had gallstones present on OCG and cholecystonography	None	None	7-17month None had recurrent abdominal symptoms requiring hospital ad- missions for abdominal crises (8 Asymptomatic)
Salanki 1979	10 (Elective)	Fever, vomiting, abd. pain, jaundice, some re- current RUQ pain, nausea, fever, gallstones Dx: OCG (6), Roentgen- ogram (1), Surgery (1), IVC (1)	Minimal Postop Pneumonia (1) Jaundice, and fever (1) (2)	None	All had relief of abdominal symptoms (10 Asymptomatic)
Stephens 1980	29 (Elective)	Dx of Stones: Roentgen- ogram 18 of 36, fatty food intolerance, vomiting, ultrasound Dx.	Temp 38.5 c, bleeding (1) Seizure with known seizure disorder (1) Short sickle crisis (1)	None	No recurrence of symptoms in 1 year (36 Asymptomatic x 1 yr.)
	7 (Urgent in crisis)	Fever, severe RUQ tender- ness, Hepatomegaly, elevated bilirubin	Persistent fever Hosp. Days 8-40, Pneumonia, Jaundice (10)		
TOTAL CHOLECYSTECTOMIES	121	All with significant gallbladder disease, most with documented stones	35 with postop complications (29%)	No deaths (0%)	Followup on those reported after 1 year Asympt. 95 92% Recurrent Sx. 8 8% Total known 103

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Osteitis Fibrosa Cystica Secondary to Parathyroid Adenoma with Normocalcemia

Charles A. Ledbetter, M.D., F.A.C.S.

Fuller Albright's definition of hyperparathyroidism states that "the disease is the result of more parathyroid hormone being secreted than is necessary for the maintenance of a normal serum calcium".¹ In the early and mid 1900's the diagnosis was dependent on bone disease and fractures, and the disease was always associated with osteitis fibrosa cystica. This withdrawal of mineral from the bones results in a progressive rarefaction and fibrous transformation. The name osteitis fibrosa cystica was used for this disease early in its history because of the prominence of the proliferating fibroblastic tissue that characterize the pathologic sections. This fibrous tissue replaces the bone that disappears under the

influence of abnormal amounts of parathormone and fills in the intervals between the remaining bone spicules.² The affected bones are susceptible to pathologic fractures at areas of "brown tumors of hyperparathyroidism"—localized areas of bone destruction, often expansile in nature, characterized by spotty, almost cyst-like areas of lucency in the roentgenograms.

The hallmark of diagnosis of primary hyperparathyroidism has been the presence of hypercalcemia. Hyperparathyroidism with a prolonged period of normocalcemia has been reported by Johnson et al.³ Few cases have been reported in the literature of the rare occurrence of normocalcemia hyperparathyroidism and osteitis fibrosa.⁴ The clinician is usually on the alert for hyperparathyroidism in all cases presenting with



Figure 1.

AP of both lower extremities demonstrating open reduction internal fixation.

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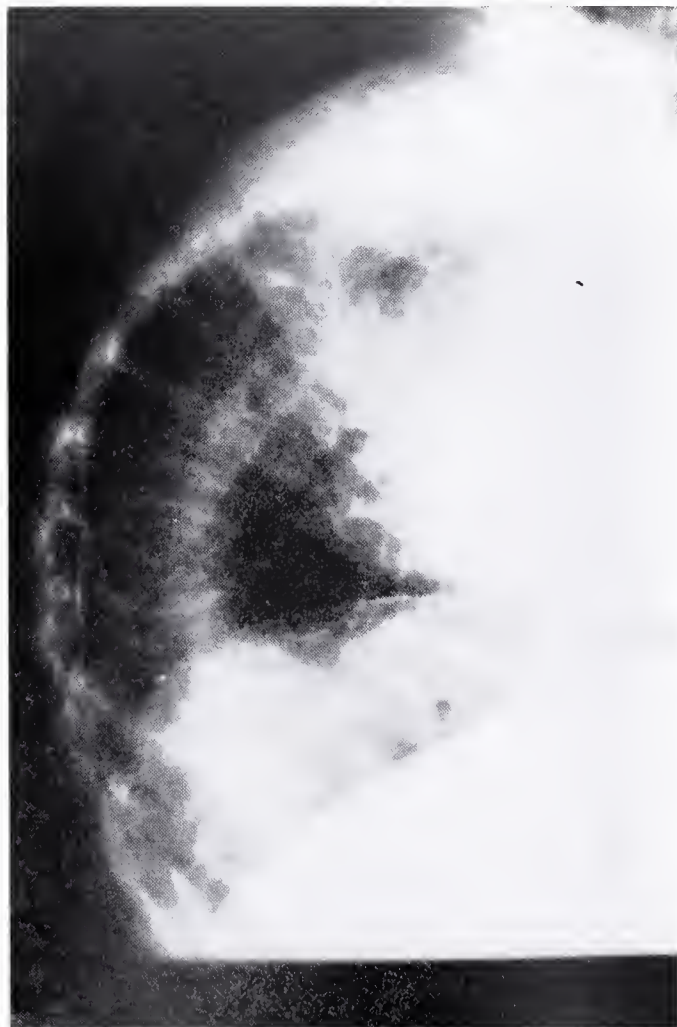


Figure 2.

Lateral X-ray of thoracic spine.

renal calculi, peptic ulcer disease or pancreatitis.

The present case is a report of the clinical and pathologic findings of a case of osteitis fibrosa cystica secondary to parathyroid adenoma with normocalcemia.

Case History

A 67-year-old white female, was referred for orthopedic evaluation because of back pain. She also complained of bilateral leg cramps, groin pain, intermittent diarrhea, hair loss and "hump back".

The patient's present symptoms were dated

back some six years prior to admission at which time she had been evaluated for back pain and subsequently been treated for urinary tract infection and found to have a duplication of the left collecting system on IVP. At about the same time, she sustained a fracture of her ankle which was accomplished with minimal trauma occurring after she twisted her ankle while working in her yard. (See figure 2) This required open reduction internal fixation and healed uneventfully. Prior to this fracture, the patient had incurred bilateral tibial fractures and fracture of the left humerus in a motor vehicle accident in 1973. In the early

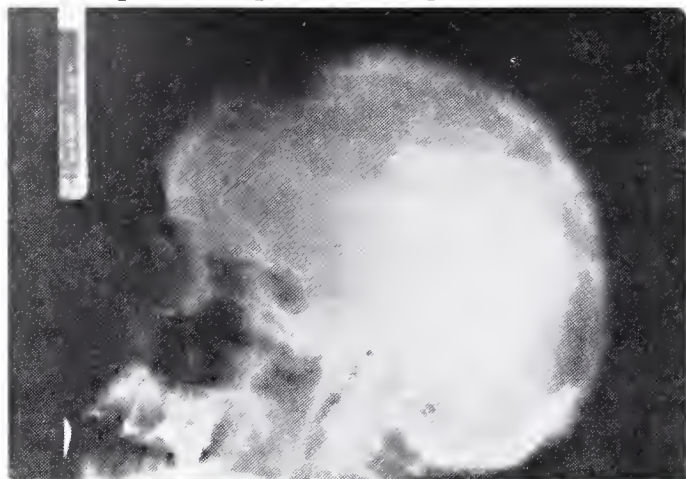


Figure 3.
Lateral skull X-ray.



Figure 4.
Lateral lumbar spine X-ray.

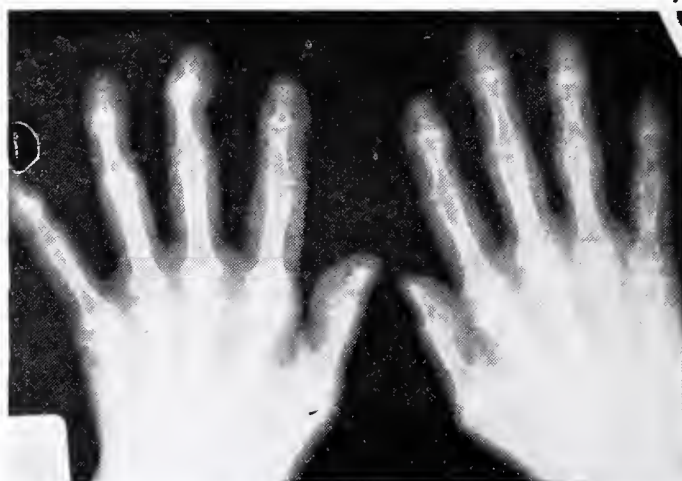


Figure 5.
AP X-ray, both hands.



Figure 6.
AP pelvis.

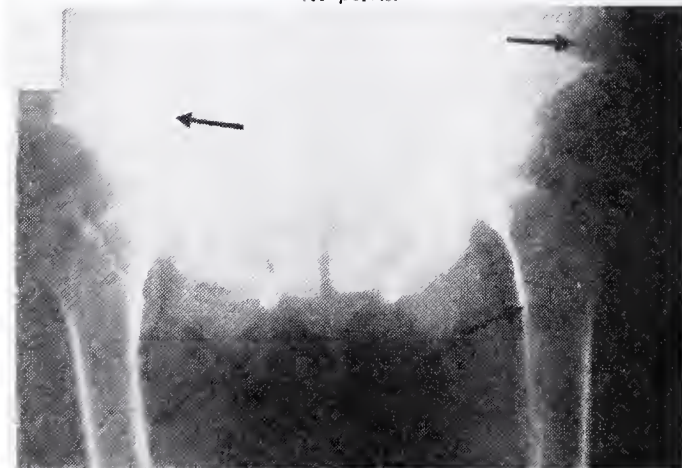


Figure 7.
AP pelvis including proximal femur.

1970's, she had a vagotomy and pyloroplasty for recurrent ulcer disease and a bowel biopsy which was reported as normal. Her diarrhea which had persisted was diagnosed as functional and had responded intermittently to the oral administration of diphenoxylate hydrochloride with atropine sulfate.

Physical examination revealed the blood pressure to be 160/100, temperature 98.2 F., pulse 80, respirations 18, height 5' 6", weight 160½ pounds. Examination of the head revealed alopecia circumscripta. There was no ban keratosis to the eyes. Gums showed chronic gingival disease. The tongue was furrowed. Grade II hypertensive eye-grounds were present. The neck exam revealed a 3.5 cm. by 2.3 cm. mass in the left thyroid region. The orthopedic exam revealed a marked vertical height collapse of the thoracic vertebrae with a resultant barrel chest and "buffalo hump" deformity of the thoracic spine. The remainder of the physical examination was unremarkable.

Multiple serum calcium determinations revealed the following results: 9.3 mg/dl; 8.9 mg/dl.; 9.6 mg/dl. with a phosphorus of 3.4 mg/dl.; 9.9 mg/dl. with a phosphorus of 3.1

mg/dl. Serum parathormone assay revealed a PTH of 540 microliter equivalents/ml. (normal 20–70) with a simultaneous calcium of 9.5 mg/dl. (normal 8.0–10.1), a phosphorus of 3.2 mg/dl. (normal 2.5–4.5 mg/dl) and a creatinine of 1.0. A repeat assay showed the PTH to be 420 eq/ml., calcium of 9.3 mg/dl. The hemoglobin was 11.7 g/100 ml. The WBC and urinalysis were normal. Total serum protein was 6.5, albumin 4.6, globulin 1.9, alkaline phosphatase 90.0 A.C.A. u/dl (upper limits of normal 12 A.C.A. u/dl). Amylase was 475 units (upper limits of normal 190 units by Amylochrome method). Serum protein electrophoresis showed a moderate increase in beta-1-globulin and a moderate decrease in gamma globulin. Urinary screen for Bence-Jones protein was negative.

VDRL was non-reactive. BUN 11 mg/dl., sodium 139 mg/dl., potassium 4.7 meq/l. and chloride was 109 meq/l. Liver profile was normal. Serum amylase was elevated 2.5X normal.

X-ray studies to include an IVP showed duplication of the renal collecting system and ureter on the left with a normal right kidney.

(Figure 2) A lateral chest X-ray demonstrates

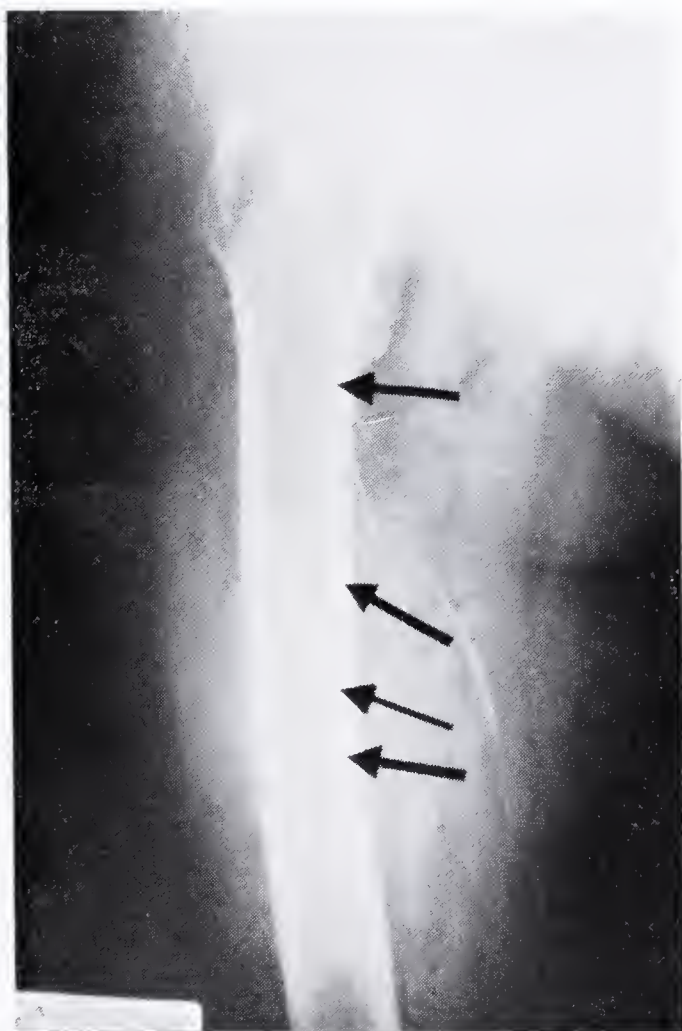


Figure 8.
AP proximal right femur.



Figure 9.
AP, left hip.

the extreme kyphosis with anterior vertebral wedging and marked osteopaenia.

(Figure 3) Lateral skull X-ray showed marked demineralization with a characteristic peculiar panular mottling and multiple cystic lesions.

(Figure 4) Lateral lumbar spine X-rays demonstrate the generalized osteopaenia with preservation of the disc spaces, indicative of the active replacement of the original bone and marrow by fibrous tissue. Figure 4 demonstrates the so-called "fish vertebrae".

(Figure 5) Subperiosteal resorption of bone is an important radiographic manifestation of hyperparathyroidism and is demonstrable in figure 5, showing subperiosteal resorption of the phalanges, especially the distal tufts.

Figure 6, 7, and 8 include AP pelvis X-ray with details of AP hip roentgenograms and proximal femur. These show the localized destructive areas or brown tumors encountered in tubular bones that are of the density of soft tissue of which they are composed. Their margins are indistinct and they enlarge. They become margined by a thin shell of bone. (Figure 9 and 10)

Other areas of bone resorption and localized

areas of destruction are found in the tubular bones (Figure 10) and the distal end of the clavicles (Figure 11). Resorption of the medial aspect of the proximal tibia is a frequent finding, and is demonstrated in this case. (Figure 12) Bone scan showed diffuse increased isotope activity of the calvarium. There were no other areas of definite abnormal isotope activity. The lesion identified on the radiographs, therefore, were purely lytic without significant osteoblastic activity. Dental X-rays showed loss of the lamina dura.

The patient was subsequently taken to surgery where a 4.55 gram parathyroid adenoma was removed from the right inferior parathyroid gland. The other three glands were identified and were noted to be normal in size and were not biopsied.

Sections of the encapsulated adenoma show mostly chief cells and scattered clear cells. No oxyphil cells were present.

Postoperatively, the patient's serum calciums ranged from 5.3 mg/dl to 6.4 mg/dl. She was maintained on dihydrotachysterol 1.6 mg. daily and 12 gm calcium gluconate daily.

Discussion

Hypercalcemia is generally regarded as the hall-

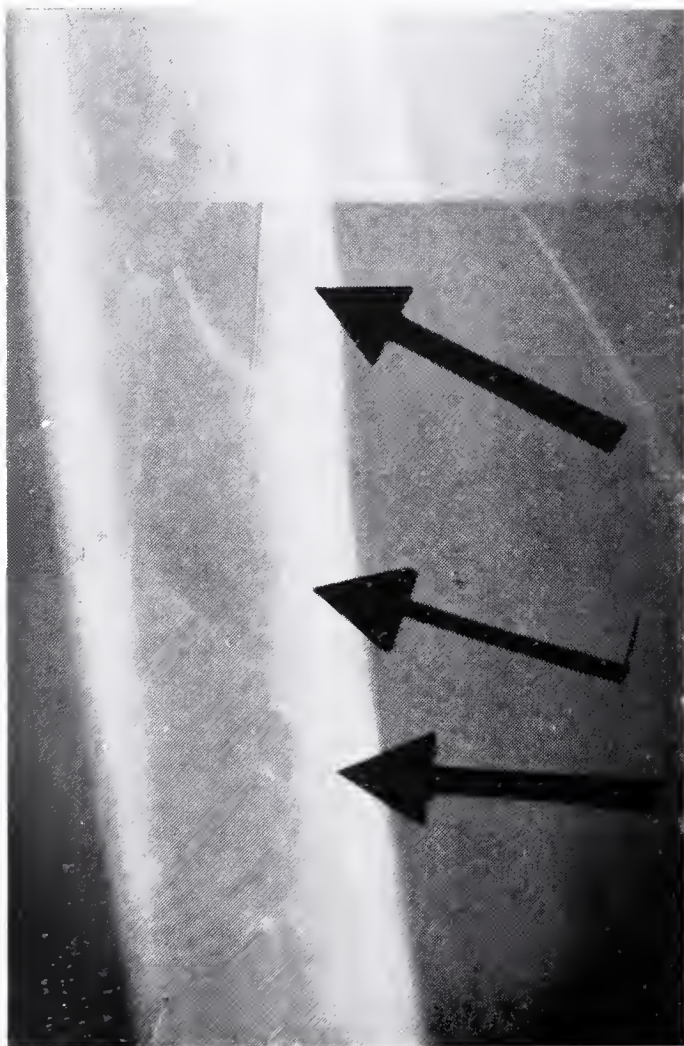


Figure 10.
Detail of proximal right femur.



Figure 11.
AP, right forearm.

mark of diagnosis in hyperparathyroidism. Normocalcemia hyperthyroidism, although rare, does occur.³ Its clinical occurrence is usually associated with symptoms of recurrent urinary tract calculi. Beazley, et al, reviewed the surgical management of parathyroid disease at the National Cancer Institute and 57% of the 150 patients with hyperparathyroidism presented with symptoms of recurrent urinary tract calculi.⁵ The X-ray bony findings of osteitis fibrosa are rare in today's clinical setting but should alert the examiner to parathyroid malfunction. Normocalcemia does not necessarily imply that the concentration of para-



Figure 12.
AP, right clavicle.



Figure 13.
AP, right knee and proximal tibia.

thyroid hormone in the blood is normal as evidenced by this case in which the parathormone was elevated some six to eight times normal. The historical symptoms of this patient were referable to multiple systems and should alert the clinical examiner to possible parathyroid malfunction as the etiology. The bone findings on X-ray and dental X-ray absence of lamina dura reinforce this position. One might present a case that in this patient if the bone mass was sufficient in the presence of the abnormally high parathormone levels the calcium determination in this patient would be correspondingly higher.

This patient is now seventeen months post-operative with serum calcium determinations running between 7.4-8.2 mg/dl.

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Figure 14.
Adenoma at surgery. (Note size in comparison with surgeon's finger.)

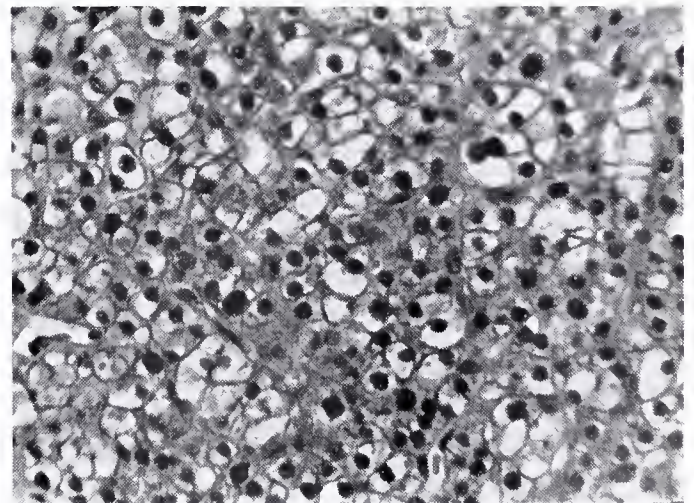
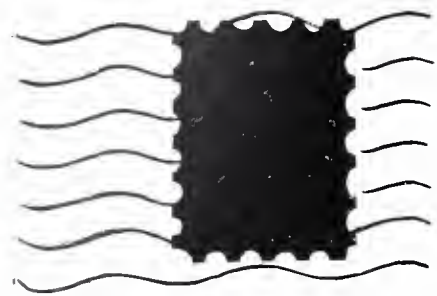


Figure 15.
High power resolution of adenoma.



LETTERS TO THE EDITOR

Dear Editor:

The longer I practice medicine the more I am convinced that many illnesses are caused by what we eat, drink and breathe. I have practiced medicine since 1963, as a partner in Little Rock General Practice Clinic. I have treated many patients with obvious diseases — diseases which can be seen by the naked eye or obviated by our sophisticated lab and x-ray examinations. I have also treated many patients with diseases and disorders which I could neither see with the naked eye nor specifically obviate by these same examinations. I have labeled (in good faith) these many problems as: 1) tension headache; 2) fatigue syndrome; 3) chronic recurring otitis media; 4) chronic sinusitis; 5) irritable colon; 6) depression; 7) nerves; 8) anxiety; 9) situational reactions; 10) hyperactive child syndrome; 11) hypochondriasis; 12) nervous stomach; 13) some I even laid on the poor lowly virus. (I thank God for viruses — even if I couldn't prove it so, the patient couldn't prove me wrong!) The list is longer, but these are just some of the more common ones. Over the years, I have had patients ask me if I thought "something they ate" could cause their bizarre symptoms. Not really believing this, I would simply shrug my shoulders and halfheartedly agree with that possibility. I am not talking about the occasional patient who always falls out after eating shellfish, etc.; this is too obvious.

Now, enter a patient of mine who has a long history of allergies and presents me with a brochure about an allergy meeting being held in the near future in a large city just over the river to the east of us. Not appreciating very much about allergy in general and needing hours for the American Academy of Family Practice, I halfheartedly signed up and attended. That meeting introduced me to a new world of medicine — man's relationship with his environment. I had spent seventeen years as a "super sleuth" chasing down causes of all sorts of chronic or recurring

complaints. I have sent patients here for a lab test, there for an x-ray, over yonder for a nuclear scan, around the corner for a consult, then backed up and repeated same again — all the time not looking right under their nose for a possible cause to their problems, namely what they may be eating, drinking or breathing.

At first, I couldn't believe all that I heard at that allergy meeting; frankly, I thought some of it was hogwash — that part of it was witchcraft. I came home armed with much doubt and some pretty stiff elimination diets. I doubted being able to convince a patient to stay on such a diet for five to seven days and further doubted clearing someone's longstanding complaint with such a simple approach. On the other hand, I realized that there were too many physicians advocating this for some of it not to be true.

Trying to keep an open mind, I began using these diets on my own patients whom I had evaluated, followed and treated for years, patients with all of the aforementioned diagnoses — headaches, etc. I was more surprised than they as their symptoms cleared. Certainly, not all were successes, but somewhere over half were. I couldn't believe it. This was too simple; I didn't recall these lectures in Medical School. After these symptoms cleared (in four to seven days), we began adding foods back one day at a time, and symptoms reappeared only to subside again with omission. (This "ain't" new stuff; we just laid a lot of these techniques aside years and years ago, trying to build a better medical mouse trap.) I was further surprised when we took chemical inhalants, things that we breathe every day, from someone's environment, and their symptoms cleared. In this day of rising costs of medical care, I was really intrigued by the cost of this "work up," and office call plus a diet sheet and instructions — roughly \$20.05. What an impact on the cost of medicine we could have if we could identify a person's chronic complaints secondary to food and inhalant reactors before being shoved into a system of testing — testing which will not disclose the culprit of their disorders.

I would suggest that each of you reading this be a "doubting Thomas," and don't believe any of this until seeing it work. Try it on some of your most difficult and puzzling cases, cases which have already had the usual and customary work up for that particular complaint. If you fail the first time you try these techniques, don't give it up; it certainly is not the panacea for all chronic complaints, but there are enough successes to

make the extra time worthwhile. The following are some suggestions as to how you might get started doing this, if interested:

- 1) Obtain an elimination diet by calling me at 663-1407, and I will gladly send you the diet and instructions I am using; or you can order the booklet, "Tracking Down Hidden Food Allergies" by Dr. William Crook of Jackson, Tennessee. (P. O. Box 3494, Zip code 38301).

This is an excellent book which is written primarily for children, but it fits adults as well. It is very well written and very well illustrated.

- 2) Explain the concept to the patient. If you are dealing with a child, explain it directly to the child, as well as to the parent. Make sure that the child understands that it is *you* who is limiting his food intake and not the parent. This will cut down immensely on parent/child conflict the next week. It is most important that the patient, be it child or adult, follow the diet exactly.
- 3) Tell the patient that they will feel worse for the next three to four days. This is because of withdrawal symptoms from food to which they are addicted. Coffee is the second best example I can think of this. Withdrawal can include any multitude of symptoms such as headache, malaise, anxiety, depression, fatigue, etc., etc., etc.
- 4) They can expect to feel much better on the fourth or fifth day. Some few patients may have to go six or seven days before their symptoms subside, but the extra days are worth the wait.
- 5) If the chronic symptom, or symptoms, have not changed within seven days, assume it is not to be due to food allergy. Don't be surprised if some symptoms clear out that you have not even discussed with the patient. We have had many patients who have come in for one problem, have been put on the

elimination diet, and several other symptoms have cleared, leaving the original symptoms on a nonfood reaction basis.

- 6) If the symptoms have subsided, all you know at this point is that something deleted from the diet is responsible for that improvement.
- 7) Now, it's simply adding one food back per day to the diet. If symptoms recur, this food needs to be omitted from the diet for one to two months, and then a trial re-entry can be made. If the food happens to be one of those which it is virtually impossible to totally eliminate from the diet, such as corn, wheat, etc., skin testing and immunologic treatment may be necessary.
- 8) In trying to determine the causative factor such as chemicals or other inhalants, it necessitates either skin testing or the removal from one's environment those things which are suspect. In very difficult cases, the patient may have to be removed from his total environment.
- 9) Other testing techniques are available to determine food and chemical and inhalant reaction. These include skin tests, provocative food testing, modified RAST test (IGE mediated food and inhalant allergies) and cytotoxic testing.

CONCLUSION: What I am trying to say is simply this: there are many chronic medical problems which I have treated for years incorrectly. Problems which relate to our environment, to what we eat, to what we drink and to what we breathe. Problems which do not show up with our usual and customary tests for their detection. This is not a rare occurrence. The numbers who respond to this approach will surprise you as it has me. Look out for the chronic patient whose symptoms you clear. You will be heaped with thankfulness.

Respectfully,
Harold H. Hedges, M.D.



ELECTROCARDIOGRAM

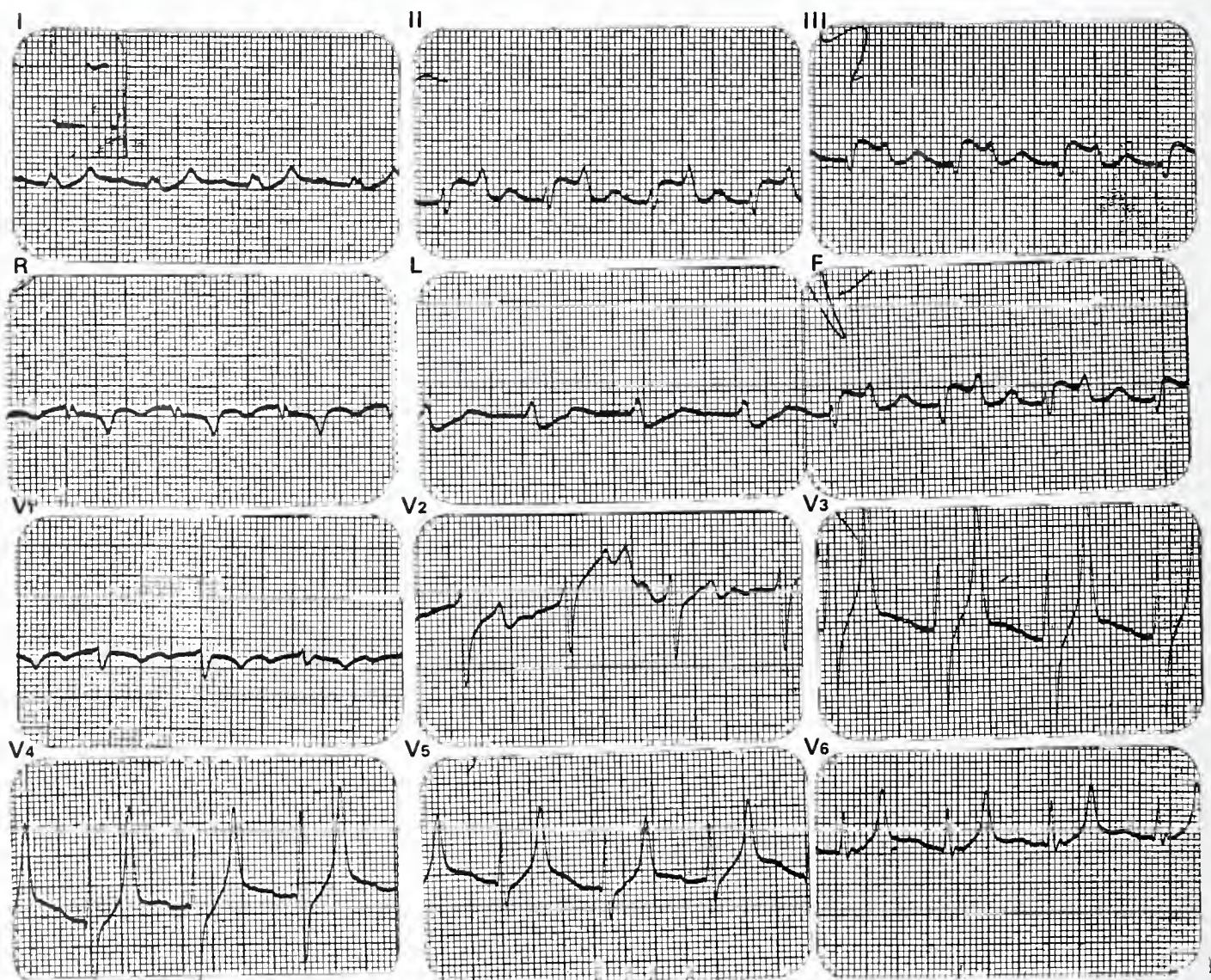
OF THE MONTH



The Department of Cardiology, University of Arkansas College of Medicine
(See Answer on Page 355)

HISTORY: H. K. is a 20-year-old man who presented to the hospital because of a crush injury and oliguria. This ECG was obtained along with other studies including a serum potassium and serum calcium determination. Which one of the following aberrations would most likely be present?

- A. Hypocalcemia
- B. Hypercalcemia
- C. Hypokalemia
- D. Hyperkalemia



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MEDICAL GRAND ROUNDS

Current Concepts in Amebiasis

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HISTORICAL ASPECTS

Amebiasis was first described by Ballingall,¹ who practiced in India, as an illness which included dysentery followed in some cases by hepatic abscess. Amebae with typical movements and ingested red blood cells were first seen by Lösch² in the stools of a Russian farmer with recurrent dysentery. He was also able to produce experimental amebiasis in dogs. Kartulis³ studied 150 patients with dysentery in Egypt, and observed amebae in the stools in all cases, but not in controls. He also found amebae in sections of intestinal ulcers. In 1890, Osler⁴ reported a 29-year-old physician who had lived in Panama, where he had chronic dysentery. Two large hepatic abscesses were drained and amebae were observed in the pus. A year later, Councilman and Lafleur⁵ described 14 cases of amebic dysentery and amebic abscess of liver. *Entamoeba histolytica* (*E. histolytica*) was differentiated from *Entamoeba coli* (*E. coli*) by Quinke and Ross⁶ in 1893. *E. coli* contained debris but no red blood cells. These authors also described amebic cysts. Walker and Sellards⁷ in experiments carried out in prisoner volunteers established that *E. histolytica* was the agent responsible for amebic dysentery, but *E. coli* was innocuous. They also showed that *E. histolytica* infections were not always followed by dysentery. In 1942, Saper⁸ reported on two different races, one a large race *E. histolytica*, and the other a small race now known as *E. Hartmanni*. The latter is non-infectious.

EPIDEMIOLOGY

Amebic infection is endemic in some parts of the world; this includes Central and South America, Mexico, West Indies, Philippines, India, the Mediterranean area, Africa and the Arctic.⁹ In the United States foci of infection have been discovered in Indian reservations, in those of the lower socio-economic groups living in towns of the south central and southwestern regions, in mental institutions, in immigrants and visitors

from developing countries and in tourists returning from developing countries.^{10,11} The incidence of amebic infection in underdeveloped countries has been estimated as more than 50%; the majority have no symptoms. In contrast, in industrial countries, the incidence is between 1 and 3% of the untraveled population, and 90% are asymptomatic.¹² However, precise epidemiological data are difficult to obtain since fecal surveys are time consuming and expensive. The use of serologic testing in epidemiologic surveys is compounded with difficulty. Serology also underestimates the infection rate since many infected individuals are asymptomatic, and in these cases, the tests are negative. In contrast, these tests may remain positive long after therapy for invasive disease.

Krogstad and colleagues¹³ reported on seven apparent outbreaks of amebiasis between 1971 and 1974 in the United States. Their conclusions may be summarized as: (1) Foci of endemic amebiasis exist both in institutions and outside institutions. (2) Sporadic cases are often diagnosed incorrectly as ulcerative colitis and occasionally treated with steroids with detrimental results. (3) Outbreaks are diagnosed late resulting in increased mortality. (4) Some laboratories have overdiagnosed amebiasis; *E. histolytica* was reported in stool specimens which contained only leukocytes. They suggested using buffered methylene blue, added to saline in fresh mounts of stool specimens, to differentiate leukocytes and epithelial cells from amebae. In addition, permanent staining of preserved material was recommended for definitive diagnosis.

Amebiasis occurs in Arkansas. Juniper,¹⁰ in a personal series collected over 14 years, observed and reported on 149 cases. In this group, 121 cases were intestinal, 22 hepatic, 5 cutaneous, and 1 pulmonary in location. The overall mortality was 15%, but the majority of these were patients in the state mental hospital. The mortality in the University Hospital and Veterans Administration Hospital was 4.3%. An infection rate of 3.4%, which was not higher than the national average, was found when fecal surveys were performed in selected areas in Arkansas in 1963.¹⁴

PATHOPHYSIOLOGY

There are two stages in the life cycle of *E. his-*

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tolytica, the trophozoite or feeding stage, and the cyst. These are illustrated schematically in Figure 1. Invasive trophozoites are up to 50μ in di-

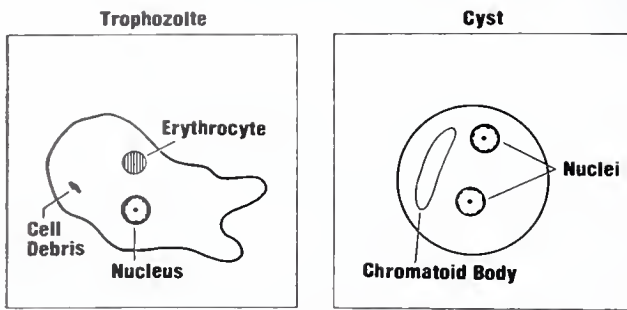


Figure 1

ameter, move actively in one direction, feed on bacteria, cell debris, and red blood cells, if present. They multiply by binary fission. There is one nucleus with a central karyosome and peripheral beaded chromatin.

Noninvasive trophozoites are smaller (Fig. 2);

MORPHOLOGY

Trophozoites.

Non-invasive - $10-20\mu$.

Invasive - up to 50μ .

Cysts - $10-16\mu$

Immature - 1 Nucleus.

Mature - 4 Nuclei.

Figure 2

they are less motile, and do not contain red blood cells.¹³ Trophozoites encyst by rounding up, eliminating the cytoplasm, and secreting a rigid cell wall, forming a single nucleated cyst 10 to 16μ in diameter. The cyst may mature inside or outside the body by two divisions, resulting in a cell containing four nuclei and a cigar-shaped chromatin body.

Trophozoites are fragile and soon perish outside the body. They lyse in water and are destroyed by gastric acid. Thus, under normal circumstances only cysts are infectious. Following ingestion the cyst wall ruptures in the small intestine resulting in four metazoic amebae which divide forming eight amebae. Some of the trophozoites encyst while others remain as trophozoites.

The transmission of amebic infection is person to person infection by cysts. Oral ingestion of contaminated water or food, or direct contact with feces, or indirect spread by flies which carry the cysts are the usual modes of infection. The cyst can survive up to 15 days at 4°C in liquids such as milk or yogurt, but only several hours in

frozen foods. They are, however, killed by temperatures above 55°C ; therefore boiling will eradicate cysts. Desiccation also kills cysts so there is no airborne spread. Fresh fruits and vegetables may be disinfected using full strength vinegar or sodium hypochlorite.¹² There is venereal transmission, both heterosexual and homosexual in origin.¹⁵

All strains of *E. histolytica* are potentially virulent.¹² The avirulent strains appear to be more common in temperate climates, whereas virulent strains are seen in tropical areas. Individuals living in tropical areas infected with virulent strains get a less severe illness than visitors. In experimental animal studies, virulence has been found to reflect the severity of the patient's illness. Stools of patients with severe dysentery used to infect animals are found to cause a more virulent infection than stools from a less severely ill patient. In vitro culture reduces virulence which is restored by passage through animal liver. The presence of bacteria also appears to increase the virulence of the infection. The host-parasite relationship is not clear, some individuals have an acute severe disease, while others harbor the parasite for months to years with little or no signs. Certainly a more severe disease is seen in patients with nutritional deficiency or impaired immune state.¹⁶

Tissue invasion by trophozoites occurs by lytic and physical means.^{17,18} Cytolytic enzymes appear to be released from vesicles derived from surface membranes or trophozoites. These may be able to damage the surface mucosal epithelium. Another view is that micro-ulceration with exudation of serum occurs first and attracts amebae to damaged sites. Penetration of the trophozoites appears to be favored by relatively acid and anoxic conditions as in necrotic superficial mucosa. Invasion into the submucosa and deeper tissues is aided by the production of enzymes from the organism. These include hyaluronidases, mucopolysaccharidases and proteinases. Amebae may enter the blood stream where they are usually transported to the liver and occasionally to other organs.

The role of intestinal bacteria in infection is uncertain. Amebae grow in culture only in the presence of bacteria. Experimentally infected bacteria-free guinea pigs develop only a mild infection.¹⁹ Antimicrobials, such as tetracycline are effective in treatment, and most of the effect is said to be due to their antibacterial properties.

However, bacteria are not found in amebic liver abscesses unless complications arise.

The site of amebic ulceration is usually in the cecum or rectosigmoid region. It can also occur in any part of the large intestine, appendix, and even the terminal ileum.²⁰ Initially, there are superficial erosions which then extend laterally to the muscularis mucosa and finally through this layer causing flask-shaped ulcers. Blood vessel involvement may produce local thrombosis. Ulceration may extend into the deeper tissues and there may be penetration through the muscle coats, causing peritonitis. Healing occurs without scarring. There is an inflammatory response with lymphocytes, polymorphonuclear leukocytes, and eosinophils. The mucosa between ulcers usually shows signs of nonspecific colitis. Diffuse lesions may be indistinguishable from inflammatory bowel disease. Focal lesions may occur with or without detectable amebae.^{17,18} The probability of invasion depends on the virulence of the strain and the nutritional and immunological state of the host.

Humoral antibody, mainly IgG, is produced in response to infection and is used in the serological tests for diagnosis.²¹ There is also some IgM production. Some authorities have indicated that an antibody response may be found in up to 25% of asymptomatic individuals, using the more sensitive tests.²³ Thus, a mild, self-limited invasion may occur more commonly than has been realized. Skin sensitivity tests to injected ameba antigens may be positive. There is also evidence of cell-mediated immunity with findings of lymphocyte transformation in amebic abscess of liver, but not in intestinal amebiasis.²⁴ Migration inhibition factor was absent in acute untreated liver abscess, but appeared after successful treatment.²⁵

In 1969, the World Health Organization classified amebiasis into asymptomatic and symptomatic forms.¹² (Fig. 3) The asymptomatic variety,

CLASSIFICATION AMEBIAS (WHO 1969)

Asymptomatic
Cysts \pm Trophozoites
Symptomatic
Trophozoites \pm Cysts

INTESTINAL

EXTRAIESTINAL

Figure 3

which includes by far the majority of cases, consists of individuals who harbor the parasite, and cysts are commonly found in their stools. In contrast, trophozoites and occasionally cysts are found in the symptomatic variety. Symptomatic ame-

biasis may present as an intestinal or extraintestinal disease. The intestinal phase always precedes the extraintestinal phase, although it may occur without symptoms. Indeed, at least 50% of individuals with amebic liver abscess have had no history of previous intestinal disease.²³

INTESTINAL AMEBIASIS

The presentation of symptomatic intestinal amebiasis is varied.^{12,20} (Fig. 4) The illness may

INTESTINAL AMEBIASIS

- (1) Dysentery
- (2) Non-dysenteric colitis
- (3) Localized ulceration
- (4) Appendicitis
- (5) Ameboma
- (6) Complications

Figure 4

present abruptly with dysentery with small volume diarrhea, blood and mucus, tenesmus, fever and lower abdominal colicky pains. This may follow a period of non-dysenteric colitis. Non dysenteric colitis is associated with chronic malaise, anorexia, weight loss, flatulence and altered bowel habit. There may be only localized ulceration of the bowel producing an altered bowel habit with little blood or mucus, and abdominal pain. The illness may present as appendicitis, but the pain is said to begin in the right iliac fossa and guarding and rigidity is less marked. An ameboma may occur as an abdominal mass, or partial intestinal obstruction particularly if it is annular. An ameboma is a proliferative response to *E. histolytica* characterized by granuloma formation.

Intestinal amebiasis may occasionally present as one of its complications (Fig. 5). Fulminant

COMPLICATIONS INTEST. AMEBIASIS

- | | |
|----------------------|--------------------|
| 1. Fulminant colitis | 5. Stricture |
| 2. Perforation | 6. Inussusception |
| 3. Peritonitis | 7. Cutaneous |
| 4. Hemorrhage | 8. Irritable bowel |

Figure 5

colitis is extremely serious. It can be associated with megacolon. If perforations occur it is usually lethal. This occurs particularly in the elderly, debilitated and immunosuppressed. Perforation may be single or multiple. Peritonitis is localized or generalized. Hemorrhage may occasionally be severe. Stricture occurs rarely after dysentery or ameboma. The site of stricture formation is usually in the ascending colon or rectosigmoid region.

Intussusception may be initiated by ulceration of ameboma. Rarely there is a volvulus. Cutaneous amebiasis may occur as deep, painful ulcerations in the perianal region, perineum, or surgical incision sites. Intestinal amebiasis may be followed by irritable colon syndrome.

INVESTIGATION OF INTESTINAL AMEBIASIS

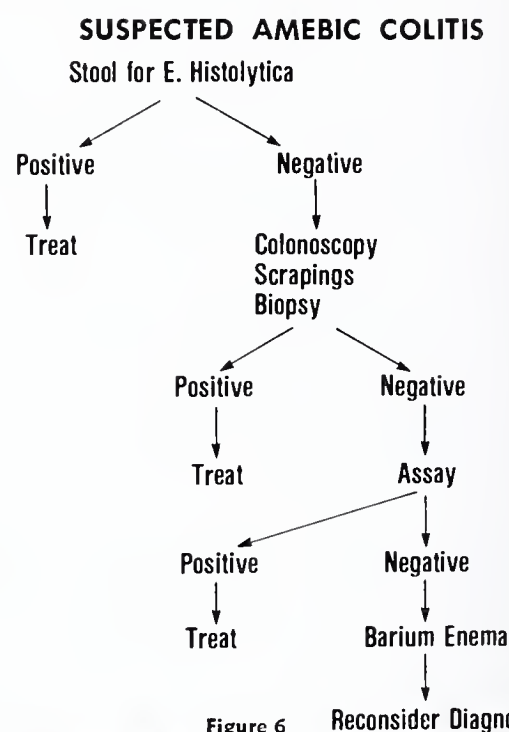
The most important investigation is a direct stool examination¹¹ which must be performed within one hour after passage; stool should be mounted in saline mixed with buffered methylene blue; both cysts and trophozoites may be seen. A 5-10% formalin mixture which maintains cysts, and polyvinyl alcohol which preserves the trophozoites, may be used as a combination fixative and preservative. Some laboratories use flotation or sedimentation methods to concentrate the number of organisms. Trichrome staining is particularly useful for polyvinyl alcohol preserved material. The success of cultivation in specific culture media has been poor.

Juniper²⁶ has emphasized the various factors that may interfere with the stool examination. These include (1) antibiotics such as tetracycline or sulfonamides, which have an anti-amebic action; (2) anti-protozoal agents; (3) antacids; (4) anti-diarrheal agents such as bismuth and kaolin; (5) anti-constipation agents such as castor oil and magnesium hydroxide which mask the amebae; (6) barium; (7) enemas — soap, tap water and saline which destroy the organisms in the lumen. Ideally, these should be avoided in the previous 14 days. The diagnostic work-up of a patient who is suspected of having amebic colitis is outlined schematically in Figure 6.

A list of conditions which may have similar features to intestinal amebiasis is shown in Figure 7. The barium enema and colonoscopy with biopsy is usually characteristic in inflammatory bowel disease, but changes identical to non-specific colitis may be seen in amebic colitis.^{27, 28} Stool tests and serology are usually negative for amebae. The indirect hemagglutination test (I.H.A.) is positive in only 1-2% of patients with inflammatory bowel disease.²⁹ In bacillary dysentery, there are increased numbers of leukocytes in the stool, and stool culture may reveal shigella. Usually, the illness is more abrupt, and there are more constitutional symptoms. In salmonella infections, the agglutination test is positive. In intestinal tuberculosis, a search is made for infection in other sites, particularly the chest. Carcinoma of the

colon may be diagnosed by colonoscopy and biopsy. Diverticulitis is revealed by barium enema after the acute stage. Appendicitis is often difficult to differentiate. Irritable colon syndrome is suggested if stool tests show an absence of amebae, leukocytes, and blood, and proctoscopy and barium enema do not reveal mucosal changes. Occasionally, a severe parasitic infection such as schistosomiasis may present with dysentery, but this is not likely to be a problem in the United States, except in Puerto Rico.

When a diagnosis of amebic colitis is made, a follow-up colonoscopy after successful treatment is indicated, since in several instances, carcinoma of the colon has been found coincidentally with amebiasis.³⁰ Other diseases that have been



DIFFERENTIAL DIAGNOSIS

- (1) Ulcerative colitis
- (2) Crohn's Disease
- (3) Bacillary dysentery
- (4) Salmonella
- (5) Tuberculosis
- (6) Carcinoma colon
- (7) Diverticulitis
- (8) Appendicitis
- (9) Irritable bowel
- (10) Severe parasitic infection

Figure 7

found coincidentally include non-specific colitis, shigellosis, and irritable colon.

EXTRA-INTESTINAL AMEBIASIS

The liver is often enlarged and tender in intestinal amebiasis. The transaminases and alkaline phosphatase may be elevated. However, liver biopsies have been normal in such cases, and the entity of amebic hepatitis is believed by some authorities to be non-existent.²³ In more recent studies ameba antigen has been detected in liver tissue.³¹ Thus, the issue of amebic hepatitis as an entity still appears to be unresolved.

The most important site of extra-intestinal amebiasis is the liver.^{32,33} Liver abscess is usually single, occurs in the right lobe, and has been found more often in adult men. Hepatomegaly is always present, but if enlargement is upwards only, it may not be detected by abdominal palpation. Liver tenderness is usually localized to the site of the lesion but if the diaphragm is involved the patient may have right pleuritic or shoulder pain. There is fever, sweating, weight loss and pallor. Chest signs including crepitations, consolidation and signs of fluid in the pleura may be detected in the right lower chest.

The diagnostic work-up in a patient suspected of having an amebic abscess is shown schematically in Figure 8. The stool tests may be positive for amebae in early cases. Blood tests may show a normochromic, normocytic anemia, and polymorphonuclear leukocytosis. Liver function tests may be normal. Bilirubin is raised only if the abscess is large, the transaminases and alkaline phosphatase may be raised, but are not diagnostic. Colonoscopy with scrapings and biopsy may be used to uncover amebic colitis if this is present. Chest x-ray usually shows an immobile raised diaphragm in right lobe lesions, and there may be lung and pleural involvement. A technetium scan of the liver is a good test to identify the site, size and number of lesions. An early blood flow scan is useful to show whether the lesion is vascular or avascular. The radionuclide scan should be combined with ultrasound to increase the diagnostic yield.²⁸ Computerized tomography is only occasionally indicated.

Aspiration of hepatic amebic abscess is indicated in: (1) very large lesions which are more liable to rupture; (2) left lobe lesions which may rupture into the pericardium and are particularly dangerous; (3) after rupture to reduce further spread of infection, and (4) after failure of chemotherapy for four days with persistent symptoms

such as fever, and painful enlarged liver.²² After defining the site of the abscess, a large bore needle is used to remove as much pus as possible. The pus is not always a characteristic anchovy-sauce color, but may be yellow. The last portion of the aspirate is used for detection of *E. histolytica* since the organisms are associated with the abscess wall. Complications of aspirations such as hemorrhage from laceration of the liver are rare because the diaphragm is immobile in this condition. Occasionally aspiration is followed by bacterial infection.

SEROLOGICAL DIAGNOSIS OF AMEBIASIS

Following infection, antibody to *E. histolytica* persists in the serum. Thus, in endemic areas, many individuals who are asymptomatic or who are not currently infected may have a positive test. However, in nonendemic areas serology is extremely useful, particularly for suspected liver abscess, amebic colitis and amebic granuloma. Serological tests are specific for *E. histolytica* antigen and the sensitivity of all the tests is in the range of 80 to 100% for amebic liver abscess.¹¹ (Fig. 9) In intestinal amebiasis the indirect hemagglutination tests (I.H.A.) is the most sensitive, giving a positive rate of 61% to a 100%. However, the results of this test are not available quickly. This test is performed at the Center for Disease Control (CDC), Atlanta, Georgia. In con-

SUSPECTED AMEBIC LIVER ABSCESS

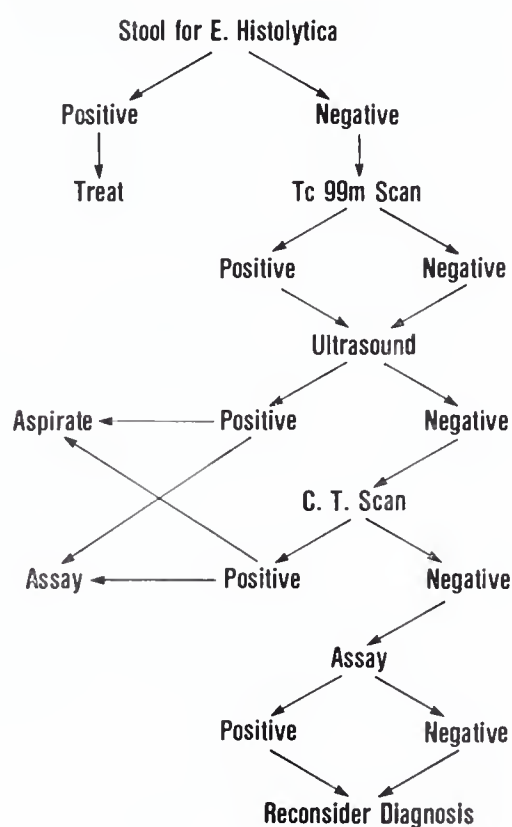


Figure 8

SEROLOGY — SENSITIVITY		
TEST	LIVER ABSCESS	INVASIVE AMEBIASIS
I.H.A.	87 - 100	61 - 100
I.D.	80 - 100	54 - 92
C.E.P.	89 - 100	8 - 96
I.I.F.	90 - 100	44 - 91
L.A.	89 - 100	60 - 95

Figure 9

trast, the results of immunodiffusion are available in 24 hours, and those of counterimmunoelectrophoresis after one or two hours. Indirect immunofluorescence to test material for *E. histolytica* antibodies may be used with *E. histolytica* organisms as the antigen. Latex particles covered in *E. histolytica* antigens are used in the latex agglutination test. A recent test is the enzyme linked immunospecific assay (ELISA).³⁴ The ELISA test is used to detect *E. histolytica* or proteins associated *E. histolytica* in the stool, but the test takes 24 hours. A second generation test is now being developed where results are available in one and a half hours and appears to be very sensitive.

TREATMENT OF AMEBIASIS

In the United States where the transmission rate of amebiasis is low, all symptomless infections should be treated to prevent development of invasive disease or transmission to other individuals.^{11,21} The treatment for individuals who pass cysts in the stool consists of one of the following regimens as outlined in Figure 10.

TREATMENT OF INTESTINAL AMEBIASIS

(1) CYSTS

Diloxanide Furoate	500 mg TID x 10
Di-iodohydroxyquin	650 mg TID x 20
Metronidazole	750 mg TID x 5-10
Paromomycin	500 mg TID x 7

(2) TROPHOZOITES

Metronidazole	750 mg TID x 5-10
Dehydroemetine	1-1.5 mg/Kg/D x 10
Tetracycline	500 mg Q6H

Figure 10

- (1) Diloxanide Furoate 500 mg t.i.d., p.o. for 10 days. This drug is available from the CDC. It is associated with minimal side effects, mainly flatulence. There is no doubt that this is the best treatment for individuals who only pass cysts.
- (2) Di-iodohydroxyquin 650 mg, t.i.d., p.o. for 20 days. This has associated side effects such as diarrhea, pruritus ani, rashes and rarely iodism.
- (3) Paramomycin 500 mg t.i.d., p.o. for seven days.
- (4) Metronidazole 750 mg t.i.d., p.o. for five to ten days. The side effects include dizziness, nausea, abdominal pain, metallic taste in the

mouth, discolored urine, and confusional state after taking alcohol. This is apparently due to a disulfiram-like effect.

The treatment of intestinal amebiasis when trophozoites are isolated from the stool includes (1) Metronidazole 750 mg t.i.d., p.o. for five to ten days; This is the treatment of choice in patients who have trophozoites in the stools; or (2) Dehydroemetine 1-1.5 mg per kg per day for 10 days intramuscularly. This drug may be associated with nausea and vomiting. It is cardiotoxic, particularly after six doses with tachycardia, hypotension, chest pain, dyspnea and EKG changes. There may be localized or generalized myositis. The drug should be administered to the patient at complete bedrest and should not be given in patients with cardiovascular disease, during pregnancy or in children. It appears to be less cardiotoxic than emetine. It is available through the CDC; (3) Tetracycline 500 mg q. 6 hrs may be given orally or intravenously. This drug acts on associated bacteria and appears to decrease the virulence of the infection.

TREATMENT OF EXTRA-INTESTINAL AMEBIASIS

Drugs which have luminal and extraluminal amebocidal activity such as Metronidazole, or combination therapy must be used (Fig. 11). The

Metronidazole	750 mg TID x 5-10 (500 mg Q6H I.V.)
Chloroquin + Di-iodohydroxyquin	500 mg D x 10 wks. 650 mg TID x 20
Dehydroemetine + Chloroquin	1-1.5 mg/Kg/D x 10 500 mg +x 2-3 wks.

Figure 11

various regimens that have been suggested include: (1) Metronidazole 750 mg t.i.d. for five to ten days, orally, or 500 mg q. 6 hrs intravenously for three days followed by oral therapy to complete a ten-day course,³⁵ or (2) Chloroquine 500 mg per day orally for 10 weeks. This drug is used only in hepatic amebiasis, since it is concentrated and accumulated in the liver. It is used in conjunction with other drugs (except metronidazole and emetine) to prevent the development of hepatic lesions. It may be given with di-iodohydroxyquin 650 mg t.i.d. for 20 days as a luminal amebocide; or (3) Dehydroemetine 1-1.5 mg per kg per day intramuscularly for 10 days plus chloroquine 500 mg per day orally for two to three weeks. The advantage of this regimen is shorter duration of therapy.

The treatment of amebiasis depends on the severity of the disease. Tetracycline should be used in all cases of severe dysentery. Naso-gastric suction and intravenous fluids are required for amebic peritonitis. The previous treatment in acutely ill patients included intramuscular emetine and intravenous tetracycline, but now that intravenous metronidazole is available, this may be the preferred treatment. Patients with ameboma may be treated with metronidazole with resolution of symptoms, thus avoiding surgery.

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EDITORIAL

Economics and Medicine in the 1980s

Alfred Kahn, Jr., M.D.

The economics of our medicine is a reflection of the economics of the U.S.A. It is true that when one speaks of medicine in an economic sense, he is speaking of two different things: The practice of private practitioners and the operation of large medical institutions, as hospitals, which support physicians. In recession years such as 1981 there is much ruminating about the economics of medicine often without really examining the problem.

Firstly, physician fees really cannot be shown to have a significant impact on either inflation or deflation. They tend to fluctuate in the economic climate in which the physician practices. When the business cycle is depressed, physicians' fees tend to reflect the general price trends—in the 1930's consultations in fine hospitals ran a dollar or so in some instances. In this stagflation fees are much higher but they are proportionate to the economic climate and even if higher fees are billed, they are not necessarily paid. A rise in fees tends to follow a general price rise not to initiate it—and vice versa. Although the public wants medical excellence, competition between physicians tends to control fees except in very limited medical specialties where there are no competing physicians.

The institutions which support physicians tend to play a more important role in determining the economic climate than do the physicians' fees. For example, surgical supply houses increase the price of X-ray film as silver goes up; they increase the price of medical chemicals as basic chemical prices go up; as the cost of labor and materials goes up, the price of instruments goes up. Perhaps, the biggest one factor in the impact of medicine on national economics is the cost of hospital care.

Hospital economics are governed by two general rules: the charges can be adjusted up or down

to meet costs and secondly there is not much competition between hospitals—which would make them competitively reduce costs. Furthermore, there is medical opinion and public opinion constantly pressuring hospitals to get the newest and most complete scientific equipment available. Thus, the background is set for an economic scenario in which one has an institution striving to obtain the best and latest equipment, striving to have adequate personnel to care for the ill—and still having to balance the cash inflow against the cost of operating the institution. In the above context, the labor cost has to be ciphered in—and it is a big item. Hospitals require the same number of administrative personnel to operate them as a fine hotel—but in addition they have to have technically trained personnel to care for the patients from a medical point of view. In the current economic setting labor costs have skyrocketed in both the scientific and non-scientific personnel. The cost of food for feeding patients has gone up—as well as the cost of permanent equipment and non-reusable supplies, as X-ray film. The hospitals operating in this economic environment will naturally raise rates to balance their budget—and this is attested to by the current increase in hospital charges. The one alternative of the hospital administrator is to cut services meaning less new equipment or less personnel to meet the rising cost of hospital operation. Public pressure tends to work against this alternative. Still another alternative is try and have a more efficient hospital administration—and then pass on the savings to the patients; this is very difficult to do in a well run, efficient hospital. Some years back a spokesman for the American Medical Association wrote an article decrying the lack of competition between hospitals. If there were more competition between hospitals—for the patient—this would

tend to hold rates down but it is dubious if it would have a dramatic effect; and, it might be counter-productive in the sense that hospitals might be pushed into emphasizing the procedures which earn money instead of a balanced hospital program—and the financially disabled patient might have a harder time getting hospital admission and services. The answer here is not simple.

The physician's place in the overall economic pattern shows some evidence of cycling in the sense that prior to the 1960's there was not widespread health insurance. Patients would not go into the hospital unless it was a matter of necessity. When hospital insurance became more widespread not alone did the patient's reluctance to go into the hospital disappear—but the patient often demanded to go into the hospital in order to take advantage of their hospital insurance; some policies offered diagnostic hospital services—many policies were not financially structured for hospitalization for diagnostic services. In this setting, many patients have been hospitalized for diagnostic services with two important economic consequences: the cost to the insurer went up and the cost had to be either absorbed or passed on to the insuring public; secondly, the “guesstimated” 10% to 15% of unnecessary hospital admissions causes the hospital to have to add facilities and services, thus again increasing the cost of medical care. There would be some decrease in this facet of the cost of medical care if the insurance companies re-structured their policies to provide for outside diagnostic care—for anyone who was ambulatory and not a truly complicated problem; this could be handled along the general guidelines of out-patient surgical care.

A further ramification of the cycling of economic factors affecting the physician is the change in the “insurance cushion”. For about 20 years to 25 years, the physicians' fees were defrayed by private medical insurance which acted so to speak as a safety net for most types of medical care. As the U.S. economy has slumped—and as the cost of medical care has risen—the insurance companies are caught in something of a squeeze: rising costs with perhaps marginal coverage by increases in premium fees. This, in turn, has led to a cutback in medical benefits for third party payments to physicians and to consideration of partial payment for hospital services previously covered completely. Moreover, certain medical specialties doing so-called cognitive work instead of surgical

procedures are having marked reductions in their fee payments by insurance companies. This latter fact raises the interesting question as to whether internal medicine practitioners should receive relatively meager benefits because it is difficult to “quantify” their work in units—whereas their surgical colleagues are paid because their procedures are more readily measurable. Should not a more even balance between the two types of practice be attained?

Of especial economic interest to physicians at this time is the rather new practice of large hospitals so-to-speak buying smaller hospitals in outlying communities; the large hospital is acting as the hub of activity very much in the manner of the airlines creating hubs as in Dallas, Atlanta or Chicago—or in the banking community where in some states large banks may own smaller banks, again the big bank acts as a hub. This provokes many questions pertaining to the economics and style of practice. One immediately wonders if a hospital network will not change the referral practice of the communities in which it operates—to the benefit of the physicians in the system and to the detriment of those out of the system. Will the hospital network improve the quality of medical practice in the outlying hospital? Will the hub hospital so-to-speak subsidize the smaller hospital—and, if so, who pays for it: the patient billings by the hospital or by the owners of the hospital? These questions and many others spring forward when one considers the many changing economics and medical facets of networks of hospitals.

Economics plays a major role in health care regardless of the system—private, state-operated, etc.—but it is less easy to prove that medical institutions are the cause of current inflation—rather they seem to be the passive follower vectored by high labor costs, expensive equipment, patterns of usage of hospitals, insurance pressures, public attitudes, and some other less important factors. The key to the current problem is “what makes inflation”. Authorities differ as to the cause of inflation and perhaps medicine in general is an involuntary contributory factor, but the real cost has to do with large national issues involving purchase of foreign oil, congressional spending, expansion of currency and such. At the same time, this does not in any way endorse the idea that physicians and medical institutions should not do their share where possible to fight the economic disruption of “stagflation”.

"From Other Years"

(From UAMS Library, History of Medicine/
Archives Division.)

Bulletin of the Arkansas Medical Society

Vol. 1 (No. 2):8 July, 1897

Editorial Notes

Dr. D. J. Prather is in Southern California.

Dr. T. E. Murrell is in Denver, Col., in the practice of his profession.

Drs. P. O. Hooper and I. J. Newton have been summoned as insanity experts in the Jesse Heard murder trial, to be held at Perryville in August.

The faculty of the Medical Department, A. I. U., are making a number of improvements in their surgical amphitheatre. It will be refitted throughout with the most modern operating tables, trays and appliances.

Dr. J. M. Keller, of Hot Springs, has been appointed Surgeon General of the Arkansas Militia, with the rank of Colonel. Dr. Keller served with

distinction in the Southern Army during the war between the States.

Dr. L. P. Gibson has returned from his annual fishing excursion. He exhausted all his kodak films upon the catch, and is now compelled to rely on his memory for the extreme size and number of speckled trout caught by the party.

Dr. B. Hatchett, of Fort Smith, will accept a surgical chair in one of the St. Louis colleges this fall. We regret the doctor's change of location, and will miss his contributions to medical literature. The Bulletin trusts that in his new venture he will be successful.

Dr. D. M. Appel, of the United States Army Medical Corps, was elected to the chair of Bacteriology in the Medical Department, A. I. U., at their last annual meeting. Dr. Appel is one of the best equipped men in the South upon this branch, and will be an addition to the faculty.



M E D I C I N E I N T H E N E W S



THE MONTH IN WASHINGTON

Due mostly to the Reagan Administration's canny use of the five-year-old Congressional budget process, the important money decisions for all federal agencies were wrapped into one package last August — the Omnibus Budget Reconciliation Act. As a consequence, there is not much going on healthwise in Capitol Hill Chambers. "Quieter than it has been in more than 20 years when then Health, Education and Welfare Secretary Arthur Flemming used to hold an intimate weekly news conference and be happy when more than a couple of reporters showed up," writes one veteran health observer.

* * * *

The Administration is forging ahead with its plan to slash 12 percent from domestic federal programs despite mounting Congressional resistance.

A complicated budget battle is engulfing the Capitol with the latest wrinkle—a decision by President Reagan to defer \$1 billion in spending while Congress deliberates the issue of a new round of cuts.

At present all federal agencies are operating under a stop-gap continuing resolution to keep them funded. Only 12 major appropriations bills to provide money for the current fiscal year that started Oct. 1 has been adopted by Congress. The House has passed 10 bills; the Senate, two.

Most of the appropriations bills reflect the \$30 billion of savings called for in the massive budget reconciliation measure approved by Congress last August.

But so far there's been no action by Congress on the President's recent proposal to pare another \$13 billion from federal spending during the current fiscal year. This would involve an extra

\$1 billion taken from federal health program expenditures.

An indication of the difficulties facing the Administration came in the House vote on the Health and Human Services (HHS) Department appropriations bill when a move to send the bill back to committee to make further cuts as requested by the President was defeated 249 to 168.

The President's plan to defer spending by \$1 billion from the initial period would temporarily reduce spending for 500 to 800 domestic programs below the stop-gap rate set by Congress. Authority for such deferrals come from the 1974 Budget Act. House Speaker Thomas O'Neill charged the tactic is "a backdoor method to frustrate the law."

The next months promise to pose stern confrontations between Congress and the Administration on the spending issue which will dominate the domestic scene through the rest of the session. Presidential vetoes of over-the-mark appropriations bills already have been threatened.

* * * *

The specific goals of consumer choice national health proposals of achieving greater cost-consciousness and individual responsibility in selection of insurance coverage and seeking health care "are meritorious and should be pursued," the AMA has told Congress.

The House Ways and Means Subcommittee on Health was told that "when considering legislation to implement the 'competition' theory, however, it is important to point out that proposals should not be allowed to restrain the appropriate use of needed medical services."

Fred Rainey, M.D., Chairman of the AMA Council on Legislation, testified that "it is important to state at the outset that all increases in medical care costs over the past two decades do not represent a 'problem' but in fact reflect solutions to long-term public health problems such as high infant mortality and poor access to care.

The Kentucky physician noted that the AMA has been greatly concerned about cost increases and has been actively engaged in activities designed to bring these increases under control.

A consumer choice bill should not be used to create incentives to under-insure, Dr. Rainey said. "Furthermore, no legislative initiative should be considered that would have the effect of rationing or lowering the quality of care in this country."

Dr. Rainey was one of scores of witnesses who appeared at three days of hearings by the Sub-

committee on the issue that has achieved impetus from the Reagan Administration's enthusiastic backing of the idea.

The Reagan Administration is still at work preparing its pro-competition, or consumer-choice plan, but is wedded to the concept, said Robert Rubin, M.D., Assistant Secretary for Planning and Evaluation at HHS.

Dr. Rubin said the plan won't be ready for a few months and that the Administration anticipates Congressional action next year. "Consumer choice and market forces, rather than regulation, should be relied on to control health cost inflation," he told the Subcommittee.

Dr. Rubin, who is heading the Administration's "intensive study and analysis" of pro-competition, said "the current system is inherently inflationary and based on the wrong fundamental incentives for virtually every party—patients, hospitals, doctors, insurers, employers and government regulators. One alternative is more regulation—arbitrary caps on every health budget item, more paperwork, less innovation and less patients' satisfaction. That course ultimately leads to utility regulation with government rationing and rate setting."

The success of a competitive strategy "rests on our ability to influence behavior—through marketplace incentives and penalties rather than government regulation," he said. "It is an idea whose time has come."

Organized labor has dug in its heels against "pro-competition" legislation. At the opening session, labor renewed its old hate affair. Bert Seidman, Director of the AFL-CIO Department of Social Security, said "we cannot accept the unfounded premise that competition in the health care industry can contain health care costs." Enactment of pro-competition "would impose a highly unrealistic, fanciful and harmful scheme on the American people," he said.

Said Seidman: "deductibles, co-payments and inadequate coverage have been resisted by unions for many years because comprehensive benefits are what the membership wants... Unions are determined to preserve the gains won over many years through collective bargaining and will strongly resist any attempts to take away these gains by legislation. Our members want more insurance, not less."

Alexander McMahon, President of the American Hospital Association (AHA), said his organi-

zation believes that consumer choice approaches "represent a promising alternative to traditional regulatory approaches."

Changes in the current financing and payment system could create new and different risks for hospitals and other providers of health care services, McMahon said. "Nevertheless, we feel that many of these concerns are fears of the unknown. Therefore, the AHA has taken an active role in stimulating discussion and examination of consumer choice concepts."

Michael Bromberg, Executive Director of the Federation of American Hospitals (FAH), testified that "restoring cost consciousness to providers and consumers is intrinsic to any solution to rising health costs."

Bromberg said the FAH believes that "a ceiling on tax free premium contributions, a uniform employer contribution, and a Medicare voucher system would best strike the right balance between the patient's interest in getting good health care and society's interest that the value of health care benefits exceeds their associated costs."

Alice Rivlin, Director of the Congressional Budget Office, cast a rather skeptical eye on consumer choice. "The available evidence suggests that employers would be reluctant to offer a choice of plans," she said. "Even under present law, employers that require a contribution from their employees can offer a choice of health plans and reward those selecting plans with lower premiums. Yet these firms seldom take advantage of this opportunity."

Adverse selection might occur with those likely to be low users tending to choose low option plans and those likely to be high users picking the high options, Rivlin said.

Despite the Administration's enthusiastic approach to pro-competition health plans, the reaction voiced by consumer, provider, business, and insurance groups during the three days of hearings was one of caution.

* * * *

The AMA has joined an assortment of professional and pharmaceutical groups in urging the Food and Drug Administration (FDA) to pull back from plans to mandate patient package inserts (PPIs) for 10 commonly prescribed drugs.

The three-year pilot program was put on hold early this year by FDA Commissioner Arthur Hull Hayes, Jr., M.D. The Commissioner has said that

he favored providing information to patients about drugs, but was seeking new information about benefits and costs.

In AMA testimony trustee Alan R. Nelson, M.D., said a PPI must "have a demonstrable effect on patient compliance with a drug regimen in order for it to be deemed clinically or cost effective." If it doesn't, then it provides no benefit to patient or physician, he said.

While questioning the validity of a study of PPIs conducted for FDA by the Rand Corp., Dr. Nelson noted that the study appeared to show that PPIs did not improve patient compliance with prescribed drug therapy, and urged the agency to rescind the mandatory PPI program.

Dr. Nelson said the AMA supports the provision of information about drugs to patients by physicians, and he urged the FDA to consider the possibility of a private sector demonstration program with physicians, rather than pharmacists, as the dispensers of information.

* * * *

James H. Sammons, M.D., AMA Executive Vice President has been elected to membership in the Institute of Medicine, an arm of the National Academy of Sciences.

Dr. Sammons was one of 50 new members elected by the Institute's present 321 active members to a five-year term. Candidates for membership are selected for their contributions to health and medicine, or to related fields such as law, administration, engineering, and the social and behavioral sciences.

Of the newly elected members, 34 are physicians, including Edward N. Brandt, Jr., M.D., Assistant Secretary for Health.

* * * *

COUNCIL MINUTES

November 22, 1981

The Council met at 12:00 noon on Sunday, November 22, 1981, in the Camelot Inn, Little Rock. Present were: Burge, Smith, Shuffield, Morgan, Kolb, Crow, J. Bell, Lytle, P. Bell, Langston, Warren, Harris, McCrary, Jones, Jouett, Williams, Pearson, Wilkins, Lilly, Kutait, Saltzman, Andrews, Koenig, Kolb, Milton Deneke, Robert Benafield, James Weber, Walter O'Neal, Stewart Fitzhugh, Steve Venable, Mr. Ralph Brodie, Mrs. Raymond Peeples, Mr. Michael Mitchell, Mr. LaMastus, Miss Richmond, and C. C. Long.

The Council transacted business as follows:

1. Heard Mr. Ralph Brodie and Dr. Steve Ven-

- able discuss the proposed legislative amendment to the Emergency Medical Services Act. Upon motion of Shuffield, the Council voted to request that the proposed legislation be withdrawn at this time and that the Emergency Medical Service and the Arkansas Medical Society arbitrate this legislation and try to arrive at legislation which would best satisfy the needs of the people of this State and resubmit proposed legislation in the 1983 general session. It was directed that the Governor be advised by wire of the Council's action.
2. Upon motion of Williams and Kolb, the Council approved the report of actions of the Executive Committee on September 22, October 2 and October 8.
3. Upon motion of Williams, the Council voted to appoint an ad hoc committee to work with the Executive Committee in liaison with the State Departments of Health and Social Services.
4. Upon motion of Williams, the Council voted to ask the Constitutional Revisions Committee to draft proposed amendments to extend membership to osteopaths.
5. Upon motion of Smith, the Council voted to table the question of component society compliance with the State Society Constitution with regard to county/state membership.
6. Upon motion of Wilkins, the Council approved mailing of an AMA-ERF solicitation with a mailing from the headquarters office.
7. Frank Morgan reported for his Councilor Redistricting Committee, submitting two proposed redistricting plans for consideration of the Council and action by the House of Delegates. Bill Jones read minutes of the House action directing the "Council to redistrict itself." It was pointed out that changing the number of councilors would require amendment of the Constitution and Bylaws and the Constitution stipulates that the House shall decide councilor districts. Upon motion of Williams, the Council voted to request that counsel resolve this question and define what is the proper course of action.
8. Upon motion of Smith, the Council voted to authorize five physicians to attend the AMA Leadership Conference to be held in February 1982.
9. Walter O'Neal, Medical Consultant to the Arkansas Department of Social Services, discussed for the information of the Council a Long Term Care Assessment and Referral Project and Criteria for Determining Classification of Long Term Care Medicaid Recipients.
10. The Council received for information a report from Robert Watson, who represents the Society on the Long Term Care Facility Advisory Board.
11. Upon motion of Smith, the Council voted to purchase Professional Association Liability insurance coverage with a \$500,000 limit on Section I liability and \$50,000 on Section II liability (Defense claim expense for anti-trust, price-fixing or restraint of trade actions).
12. Lloyd Langston, chairman of an ad hoc committee appointed by President Smith, made a preliminary report to the Council on study of the request from Health Management Systems for Society endorsement and involvement in quality assurance for medical services for the prison system. Dr. Langston indicated that he hoped to have definite recommendations for consideration of the Council by the date of the next meeting and no action was taken by the Council.
13. The Council considered the request for support from Connie Voll of the Consultant Dietitians. Upon the motion of Williams, the Council voted to table the issue until Ms. Voll could define herself and her position more completely.
14. The Council approved the appointment of Jim Lytle to the Budget Committee for a term beginning January 1, 1982, and ending December 31, 1985, and designation of Rhys Williams as chairman of the Budget Committee for the ensuing year.
15. Legal Counsel Mike Mitchell reported for the Board of Trustees of the Pension Plan. He advised the Council that documents had been filed with the Pension Benefit Guaranty Corporation and the Internal Revenue Service to terminate the defined benefit retirement plan for Society employees. A preliminary response from the PBGC indicated that there were some deficiencies in the filing prepared by National Investors. Mr. Mitchell

also reported that the Board of Trustees is studying the proposed document for the new defined contribution plan for Society employees. The Board has authorized Mr. Mitchell to consult with the Rose law firm in Little Rock on a review of the provisions of the proposed plan. No action was taken by the Council on the report from the Board of Trustees.

16. Upon motion of Williams, the Council voted to approve the proposed Society operating budget for 1982. There were four votes against approval.
17. Upon motion of Langston, the Council voted to direct the Budget Committee to:
 - (1) determine reasonable level for Society cash reserves, and
 - (2) determine a formula for determination of annual dues to prevent the reserves from exceeding that level,
 - (3) report to the Council for action so that it may be included in the 1983 budget.
18. Upon motion of Williams, the Council voted approval of appointment by the Chairman of a long range planning committee of the Council to work with and make recommendations to the Budget Committee.
19. Upon motion of Warren, the Council voted

to place a limitation on the agenda for Council meetings. Any item of business to be included on the meeting agenda must be received in the headquarters office at least five working days prior to the meeting date.

APPROVED BY: John P. Burge, M.D.

Chairman of the Council

Supplement to Council Minutes of November 22, 1981.

Text of communication to Governor White approved by the Council.

(Copies to be provided to appropriate committees of the Arkansas Senate and House of Representatives.)

The Council of the Arkansas Medical Society, meeting on November 22, 1981, requested that the proposed legislation for amendment to the Emergency Medical Services Act be withdrawn at this time. The Council recommended that the Emergency Medical Services and the Arkansas Medical Society arbitrate this legislative proposal and try to arrive at proposed legislation which would satisfy the needs of the people of this State and resubmit a legislative proposal in 1983 at a regular session.

/s/ John P. Burge, M.D.

Chairman of the Council

Arkansas Medical Society



THINGS TO COME

March 5-10

Second International Congress of Private and Independent Doctors. "The Promotion of Private Practice." Mills House Hotel, Charleston, South Carolina. Registration fees: \$300 physician; \$150 accompanying person. For further information, contact IATROS Congress, 63 Gadsden Street, Charleston, South Carolina 29401; phone (803) 722-1209 (Office) (803) 722-4214 (night).

April 16-18

The General Practice of Anesthesiology. The Arkansas Society of Anesthesiologists and the

Department of Anesthesiology, University of Arkansas College of Medicine. Red Apple Inn, Heber Springs. For further information, contact Dr. Ed Coffman, 3200 South Dallas, Fort Smith 72901.

May 3 and 4

The First University of Kansas School of Medicine International Symposium. "New Developments in the Diagnosis and Treatment of Ventricular Arrhythmias." The University of Kansas College of Health Sciences and Hospital School of Medicine, Kansas City. Alameda Plaza Hotel, Kansas City, Missouri. Registration: \$300. For further information, contact the Office of Continuing Education, The University of Kansas College of Health Sciences and Hospital, Rainbow at Olathe Boulevard, Kansas City, Kansas 66103 or telephone (913) 588-4488.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

CORONARY BY-PASS SURGERY

Presented by James Arthur, M.D., *February 2, 12:00 noon*, Ouachita Memorial Hospital, Hot Springs. One hour Category I credit. Sponsored by St. Joseph's Regional Health Center.

ACLS COURSE

Presented by Baptist Medical Center Department of Medical Education, *February 4, 5, 6*, Auditorium, Baptist Medical Center. Sixteen hours Category I credit. Registration fee \$150.

MANAGEMENT OF BREAST CANCER

Presented by Doctors Hayward, Riddick and Westbrook, *February 16, 7:00 P.M. to 9:00 P.M.*, Bella Vista Country Club, Bella Vista. Two hours Category I credit. Sponsored by Area Health Education Center-Northwest.

VIRAL HEPATITIS: UPDATE ON TRANSMISSION, PROPHYLAXIS AND THERAPY

Presented by Colin E. Atterbury, M.D., Yale University School of Medicine and West Haven Veterans Administration Medical Center, *February 16, 7:00 P.M.*, In-Service Education Building, Baxter General Hospital, Mountain Home.

CHEST RADIOLOGY — PLAIN FILM DIAGNOSIS

Presented by Ernest J. Farris, M.D., *February 27-28*, Camelot Inn, Little Rock. Nine hours Category I credit. Registration fee \$135. Sponsored by UAMS.

PRACTICAL MANAGEMENT OF RHEUMATIC DISORDERS

Presented by E. A. Lipsmeyer, M.D., *March 4-6*, Arlington Hotel, Hot Springs. Sponsored by UAMS.

INDICATIONS FOR PACEMAKER THERAPY

Presented by Michael D. Falkoff, M.D., Staff Cardiologist, Genesee Hospital and University of Rochester School of Medicine, New York, *March 16, 7:00 P.M.*, In-Service Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No fee.

SPRING SYMPOSIUM OF OB-GYN

Presented by Timothy Miller, M.D., *March 13*, Education II Building, UAMS. Registration fee \$60.

SEGMENTAL SPINAL INSTRUMENTATION

Presented by Raymond Morrissy, M.D., *March 19-20*, 8th Floor, Education II Building, UAMS. Registration fee \$350.

PATHOLOGY OF BONES AND JOINTS: A SEMINAR FOR ALL ORTHOPEDISTS AND PATHOLOGISTS

Presented by Aubrey Hough, Jr., M.D., Chairman, Department of Pathology, UAMS, *March 27, 8:30 A.M. to 4:00 P.M.*, Room E-155, Education Wing, St. Vincent Infirmary. Five hours Category I credit. Registration fee \$30.

OB-GYN FOR THE FAMILY PRACTICE

Presented by Ben Saltzman, M.D., *March 27*, Education II Building, UAMS.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC

Surgery Conference, each Monday, 12:30 P.M. to 1:30 P.M., alternate months at Union Medical Center and Warner Brown Hospital.

Pathology Conference, second Tuesday, 12:30 P.M. to 1:30 P.M., AHEC Conference Room, 490 West Faulkner, El Dorado.

Internal Medicine Conference, each Wednesday, 12:30 P.M. to 1:30 P.M., alternate months at Union Medical Center and Warner Brown Hospital.

Chest Conference, third Wednesday, 12:30 P.M. to 1:30 P.M., alternate months at Union Medical Center and Warner Brown Hospital.

Obstetrics—Gynecology Conference, each Thursday, 12:30 P.M. to 1:30 P.M., alternate months at Union Medical Center and Warner Brown Hospital.

Pediatrics, second and fourth Friday, 12:30 P.M. to 1:30 P.M., alternate months, Union Medical Center and Warner Brown Hospital.

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 A.M. to 8:30 A.M., Washington Regional Medical Center.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, February 4, 18 and March 4, 18, 1:00 P.M., Conference Room.

Pathology Conference, February 16 and March 16, 3:00 P.M., Conference Room.

Mortality Conference, February 11 and March 11, 3:00 P.M., Conference Room.

JONESBORO — AHEC-NORTHEAST

Interesting Case Conference, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

Monthly Lecture Series, third Tuesday, 7:30 P.M. rotates each month between Walnut Ridge and Pocahontas.

Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

Continuing Medical Lecture Series, each Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

Chest Conference, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Grand Rounds, each Tuesday, 8:00 A.M., Physicians' Conference Room.

Infectious Disease Conference, second Wednesday, Physicians' Conference Room.

Problem Case Conference, each Thursday, 12:00 noon, Physicians' Conference Room.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, February 16 and March 16, 7:00 P.M. to 1:00 A.M., Auditorium, Baptist Medical Center. Six hours Category I credit.

GI Roundup, February 10, 24 and March 10, 24, 12:00 Noon to 1:00 P.M., Conference Room #1.

Emergency Medicine Conference, first Wednesday, 12:30 P.M. to 1:30 P.M., Conference Room #1.

Morbidity and Mortality Conference, first Thursday, 8:00 A.M. to 9:00 A.M., Conference Room #1.

Surgery Conference, each Thursday except first Thursday, 8:00 A.M. to 9:00 A.M., Conference Room #1.

Anesthesiology Conference, third Friday, 7:00 A.M. to 8:00 A.M., Dining Room #3.

Case of the Month, third Wednesday, 12:00 noon to 1:00 P.M., Conference Room #1.

Central Arkansas Primary Care Conference, second Tuesday, 7:00 P.M. to 9:00 P.M., BMC Auditorium.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 P.M. to 1:15 P.M., Coffee Shoppe Dining Room #3.

Interhospital GI Problems Conference, first Monday, 6:00 P.M. to 7:30 P.M., Room E155, Education Wing.

Pediatric Conference, first Tuesday, 12:30 P.M. to 1:30 P.M., Room E159, Education Wing.

Interhospital Urology Grand Rounds, first Tuesday, 5:30 P.M. to 6:30 P.M., Room E159, Education Wing.

Neuropathology Conference, third Tuesday, 5:00 P.M. to 6:00 P.M., Room S-1169, Laboratory.

Peripheral Vascular Disease Conference, third Tuesday, 6:00 P.M. to 7:00 P.M., Room E159, Education Wing.

Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 P.M., Room E159, Education Wing.

Cardiology Conference, second and fourth Thursday, 12:00 noon to 1:00 P.M., Room E155, Education Wing.



PERSONAL AND NEWS ITEMS

DR. PHILLIPS

Dr. Pat Phillips of Fort Smith was recently named Doctor of the Year by the Sebastian County Medical Assistants. This is the second time Dr. Phillips has received the award.

DR. KOENIG PATHOLOGY TRUSTEE

Dr. Albert S. Koenig, Jr., of Fort Smith has been elected to the governing Board of Trustees of The American Pathology Foundation (Private Practitioners of Pathology Foundation, Inc.).

DR. BAKER RECOGNIZED

Dr. Clark M. Baker of Paragould has received a silver pin and certificate to commemorate his quarter century of membership in the American Academy of Family Physicians. During the AAFP 1981 annual convention, members of the organi-

zation since 1954 were recognized in a special ceremony.

DR. VOLLMAN HEADS CAMPAIGN

Dr. Don B. Vollman of Jonesboro has been named 1981 chairman for the Craighead County Christmas Seal Campaign.

NEW PHYSICIAN IN DIERKS

Dr. A. Dale Gullett has located at Dierks for the practice of Family and Occupational Medicine.

DR. WESTBROOK

Dr. Kent Westbrook of Little Rock, president of the Arkansas Division of the American Cancer Society, presided at the annual meeting of the organization and spoke on the exceptional job the Cancer Control Program volunteers had done.

DR. DINER

Dr. Wilma C. Diner of Little Rock recently spent three months in London, England, participating in a research project analyzing the radiology of small intestinal disease and teaching in the medical residency program at Guy's Hospital in London.

DR. HENKER SPEAKS

Dr. Fred O. Henker of Little Rock spoke at two sessions of the Sixth World Congress of the International College of Psychosomatic Medicine held in Montreal, Quebec. Dr. Henker made presentations on "Life Adjustment of Transsexual Patients" and "Concepts of the Meaning of the Term Psychosomatic."

NEW UACM FACULTY

Dr. Ricardo F. Sotomora, a native of Guatemala, has joined the University of Arkansas College of Medicine as an assistant professor of Pediatrics.

Dr. Terence S. Herman of Little Rock has joined the College of Medicine as an associate professor of Medicine.

DR. BENTON SPEAKS

Dr. Thomas Benton of Salem spoke on "Burns and Burn Treatment" at a recent meeting of the Salem Volunteer Fire Department.

DR. BAKER COUNTY PRESIDENT

Dr. J. R. Baker of Batesville is the 1982 president of the Independence County Medical Society. Other officers are: vice president, Dr. Charles H. Day of Batesville; secretary-treasurer, Dr. John Lambert of Batesville; delegate to the Arkansas Medical Society, Dr. Paul Baxley of Batesville; and alternate delegate, Dr. Lloyd G. Bess also of Batesville.

ASSOCIATION ANNOUNCED

Dr. Robert A. Calcote of North Little Rock has announced that Dr. Dennis L. Wingfield has joined him for the practice of Ophthalmology at 2500 McCain Place.

PATHOLOGY CHAIRMAN

Dr. Aubrey J. Hough, Jr., of Little Rock has been named chairman of the Department of Pathology at the University of Arkansas College of Medicine. Dr. Glen F. Baker, who had been department chairman since July 1978, resigned to join the Revlon Corporation.

DR. WOOLLAM

Dr. Chris Woollam of Forrest City conducted a one-day class regarding "Overcoming Stress During Childbirth" in connection with commu-

nity education courses offered by East Arkansas Community College.

BASKETBALL GAME

Drs. M. A. McDaniel, Eddie McCarty, Lance Whaley, P. Vasudevan, Pat Bell, Maurice Elovitz and Robert Miller, all of the Helena-West Helena area, participated in a recent basketball game between doctors in the Twin Cities and student nurses at Phillips College. Dr. Bernard Capes of West Helena acted as head cheerleader for the doctors' team.

DR. WILSON ELECTED

Dr. R. Sloan Wilson of Little Rock has been elected to the Board of Trustees of Arkansas College in Batesville.

DR. LILLY HEADS GROUP

Dr. Ken Lilly of Fort Smith has been elected president of the Executive Board of the Arkansas Baptist Convention. As president, Dr. Lilly heads the one-hundred-member governing board.

NEW ALLERGIST

Dr. Paul Martin Fiser has joined Drs. Purcell Smith, Jr., Fred J. Kittler, Bill F. Hefley and Joe W. Matthews at the Arkansas Allergy Clinic.

DR. SWARD HEADS MEDICAL STAFF

New officers for the Baxter General Hospital medical staff are: Dr. David Sward, chief of staff; Dr. Robert L. Baker, vice chief of staff; Dr. Arthur L. Beard, chief of obstetrics; Dr. Ray E. Stahl, chief of surgery; Dr. Daniel P. Chock, chief of medicine; executive committee members at-large are Drs. Robert L. Kerr and Donald S. Douglas. All are from Mountain Home. Dr. Jack Wilson, also of Mountain Home, is the former chief of staff.

DR. DUDDING MOVES

Dr. William F. Dudding of Fort Smith has moved his office to 3104 Executive Park.

ANSWER—Electrocardiogram of the Month

DISCUSSION: The ECG shows the patient to be in sinus rhythm. However, the P-waves are flat and first degree AV block is present. The QRS is about 0.11 sec and the QT interval is 0.34 sec, prolonged for the sex and heart rate of the patient. The most striking abnormality is the presence of tall, thin, and peaked T-waves, most evident in V₃₋₆. These T-wave abnormalities represent the earliest change on the ECG associated with potassium excess. Later, the QRS and PR-interval lengthen. Yet, later, as hyperkalemia advances, the P-wave decreases in amplitude and increases in duration and the QT interval becomes prolonged. Thus, the trace is compatible with a relatively advanced stage of hyperkalemia. This patient had acute renal failure and eventually required dialysis.



NEW MEMBERS

The Crawford County Medical Society has added two new members to its roll:

DR. DAVID B. SILLS

Dr. Sills was born in Fort Worth, Texas. He is a 1974 graduate of Texas Wesleyan College in Fort Worth and a 1978 graduate of Baylor College of Medicine, Houston, Texas. His residency training was with the McLennan County Family Practice Program in Waco, Texas.

Dr. Sills, a Family Practitioner, is associated with the Mountainburg Medical Clinic. His mailing address is Post Office Box 16, Mountainburg.

DR. THOMAS D. YEAGER

Dr. Yeager, a native of Allentown, Pennsylvania, is a 1974 graduate of Brown University in Providence, Rhode Island. He was graduated from the University of Pennsylvania School of Medicine in Philadelphia in 1978. After an internship with Vanderbilt University Hospital in Nashville, Tennessee, Dr. Yeager served a Pediatric residency from 1978 to 1981.

Dr. Yeager specializes in Pediatrics. His office is with Crawford County Memorial Hospital in Van Buren.

* * * *

DR. MARTIN P. MEISENHEIMER

Dr. Meisenheimer, a new member of Tri-County Medical Society, was born in Oak Park, Illinois.

After attending Iowa State University in Ames, Dr. Meisenheimer received his medical education at Washington University School of Medicine in St. Louis and was graduated in 1943. His internship was at West Suburban Hospital in Oak Park and his residency training was with St. Joseph's Hospital in Joliet, Illinois. Dr. Meisenheimer served with the United States military during World War II.

Before moving to Arkansas, Dr. Meisenheimer practiced in Prospect Heights and Arlington Heights, Illinois. He has been in Cherokee Village approximately two years.

Dr. Meisenheimer is a board certified Family Physician. His office is in the Village Mall in Cherokee Village.



RESOLUTIONS



DR. PHILIP T. CULLEN

WHEREAS, the membership of the Pulaski County Medical Society notes with sincere sorrow the recent death of an esteemed member, Philip T. Cullen, M.D., and

WHEREAS, he had been a respected member of this Society for forty years and was faithful in contributing to the affairs of the Society for the entire length of his membership; and

WHEREAS, Dr. Cullen contributed immeasurably to the health of the community and was held in reverence by his devoted patients throughout the years of his practice.

BE IT THEREFORE RESOLVED:

THAT, this resolution be adopted as a token of our appreciation of Dr. Cullen's life of service and as an expression of sympathy to his family; and

THAT, this resolution be made a part of the permanent archives of this Society; and

THAT, a copy of this resolution be forwarded to the Journal of the Arkansas Medical Society.

By Order of the Memorials Committee
Pulaski County Medical Society
H. Elvin Shuffield, M.D.
Henry Hollenberg, M.D.
Robert Watson, M.D.

* * * *

DR. THOMAS JEFFERSON CUNNINGHAM, JR.

WHEREAS, the members of the Jefferson County Medical Society are deeply saddened by the recent death of their esteemed colleague, Thomas Jefferson Cunningham, Jr., M.D., and

WHEREAS, Dr. Cunningham has been held in great respect by his fellow physicians for his devotion to the profession; and

WHEREAS, his devotion to the betterment of the health of his countless patients was recorded by their reverence of him;

BE IT THEREFORE RESOLVED:

THAT, this resolution be adopted and made

a part of the permanent record of this Society; and

THAT, a copy of the resolution be sent to Dr. Cunningham's family as a token of our sincere appreciation of his life and leadership, and

THAT, a copy be sent to the Journal of the Arkansas Medical Society for publication.

Clarence M. Rittelmeyer, Chairman

Jefferson County Medical Society



O B I T U A R Y

DR. JAMES I. BALCH

Dr. Balch of DeQueen died December 4, 1981. He was born September 6, 1936, in Balch.

Dr. Balch was a 1957 graduate of Arkansas College in Batesville and a 1963 graduate of the University of Arkansas College of Medicine. He interned at Arkansas Baptist Medical Center. His residency training was with Little Rock Veterans Administration Hospital and Scott and White Clinic in Temple, Texas.

Since 1964, Dr. Balch had served with the Arkansas National Guard. He had attained the rank of colonel, was chief of professional services in the 148th Evacuation Hospital and commander of the Booneville unit.

Dr. Balch was a member of the DeQueen General Hospital Board of Trustees and the Masonic Lodge.

Dr. Balch is survived by his wife, Linda Felts Balch, two sons and one daughter.

DR. ELI GARY

Dr. Gary died November 20, 1981. He was born March 22, 1921, in Tyronza.

Dr. Gary was graduated in 1942 from Ouachita College in Arkadelphia and in 1951 from the University of Arkansas College of Medicine. He had practiced medicine in Arkadelphia since 1952 and had served as physician for the Arkadelphia and Alexander units of the Arkansas Children's Colony.

Dr. Gary was a World War II veteran, a member of the Kiwanis Club, Conifer Girl Scout

Council, Arkadelphia Chamber of Commerce and St. Andrew's United Methodist Church.

He is survived by his wife, Bunn Grier Gary, one daughter, and a son — Dr. Don Gary of Memphis.

DR. ROBERT A. HAYES

Dr. Hayes of Wynne died November 10, 1981. He was born in Tupelo, Mississippi, on June 23, 1927.

Dr. Hayes was a 1948 graduate of the University of Mississippi and a 1951 graduate of the University of Tennessee College of Medicine, Memphis. He had practiced in Wynne since 1952 and was a partner in the Hayes, Young and Jacobs Clinic. Dr. Hayes was a veteran of World War II and a former secretary of the Cross County Medical Board.

Dr. Hayes is survived by his wife, Ann McCord Hayes, his son, Dr. Robert A. Hayes, Jr., of Fort Worth, and a daughter.

DR. RALPH M. PATTERSON, SR.

Dr. Patterson was born August 29, 1909, in Celeste, Texas. He died November 22, 1981. He had been in private practice in Hot Springs since 1955.

Dr. Patterson received his pre-med education at Southern Methodist University; he was a 1934 graduate of Baylor College of Medicine. Before entering private practice, he served twenty years with the United States Army Medical Corps. While in the service, Dr. Patterson received two Bronze Stars and an Oakleaf Cluster; he was stationed at Pearl Harbor at the time of the Japanese attack. He retired in 1955 as head of the Army Hospital at Fort Leavenworth and had previously served as chief of medical services at the Army-Navy Hospital in Hot Springs, now the Hot Springs Rehabilitation Center.

Dr. Patterson had been affiliated with the Wade Clinic and served as chief of staff at St.

Joseph Regional Center in 1973. He had served as an associate professor of Medicine with the University of Arkansas College of Medicine and the University of Chicago Pritzker School of Medicine.

Dr. Patterson is survived by his wife, Helen Stitt Patterson, two sons and one daughter.

DR. VERNON E. SAMMONS

Dr. Sammons of Hot Springs died December 8, 1981. He was born April 16, 1920, in Texarkana.

Dr. Sammons received his pre-med education at the University of Arkansas at Fayetteville and Washington University in St. Louis, Missouri. He was graduated from the University of Tennessee College of Medicine at Memphis in 1944. His internship was with Boston City Hospital and his

post-graduate surgical residency training was with Parkland Hospital in Dallas and Ellis Fischel State Cancer Hospital in Columbia, Missouri.

Dr. Sammons practiced in Hot Springs for twenty-seven years. He had served as chief of staff of St. Joseph Regional Health Center and also as a staff member of Ouachita Memorial Hospital. Dr. Sammons was a Fellow of the American College of Surgeons, a Diplomate of the American Board of Surgery, a Fellow of the Southwestern Surgical Congress, a member of the consulting staff for the Missouri State Cancer Hospital, a member of the Flying Physicians and a veteran of World War II. During 1946 and 1947, he had practiced in Berryville.

Dr. Sammons is survived by his wife, Mrs. Evelyn M. Sammons, three sons and two daughters.



February, 1982

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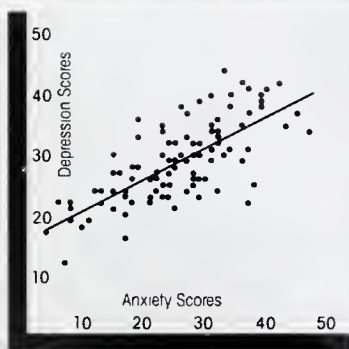
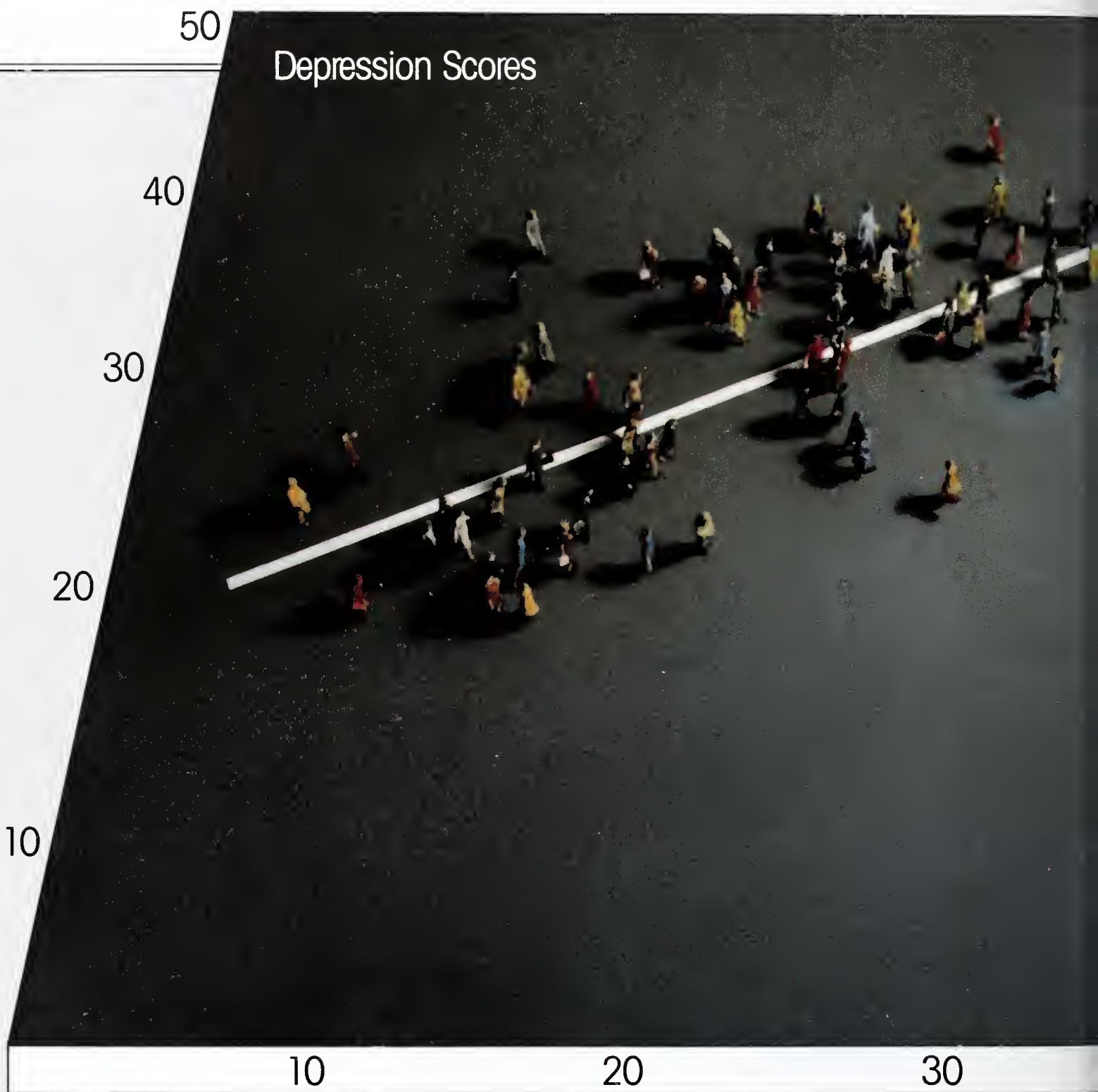
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³Adapted from Claghorn, J. The anxiety-depression syndrome. *Psychosomatics* 11:438-441, Sept-Oct 1970.

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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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An Old Medical Specialty Puts on a New Face...and Head...and Neck

Ellery C. Gay, Jr., M.D.,* Jack Anderson, M.D., and Sharon S. Graham, M.A.**

In the midst of the tremendous progress in medicine and surgery during the past 50 years, a quiet evolution has been occurring in one of medicine's oldest specialties, otolaryngology, the second to organize an American board for certification purposes. After this gradual metamorphosis, otolaryngology is on the verge of acquiring an identity that clearly reflects its transformation from an organ specialty into a modern regional specialty encompassing otolaryngology and head and neck medicine and surgery.

This change was brought into dramatic focus in October, 1980, when the two chief bodies representing the specialty — the American Academy of Otolaryngology and the American Council of Otolaryngology — changed their names to the American Academy of Otolaryngology — Head and Neck Surgery and the American Council of Otolaryngology — Head and Neck Surgery.

Early Otolaryngology: Diseases of the ears, nose and throat were rampant in the 19th and early 20th centuries, creating a need for physicians who could devote their entire attention to this area. Since these were sensory organs, and medical knowledge was not so advanced in those times, it was natural for those doctors to include in their practice treatment of the remaining major sensory organ of the head and neck, the eye. Thus emerged individual doctors who practiced ophthalmology and otolaryngology.

As time passed, physicians began confining their activities to diagnosis and treatment of diseases of the eye alone. Thus, the specialty of ophthalmology was born. In 1914, a group of these innovators formed the first national examining board for the purpose of testing those phy-

sicians who wished to be recognized as specialists in ophthalmology. In 1925, the second American examining board was incorporated to certify those desiring recognition as specialists in treatment of the ears, nose and throat. This board was known as the American Board of Otolaryngology. Creation of separate boards and separate resident training programs instituted the gradual demise of the eye, ear, nose and throat specialist.

The two oldest medical specialties did remain closely aligned until 1977 through their allegiance to the American Academy of Ophthalmology and Otolaryngology, a society formed in 1896. The format of this American Academy group has been widely copied by both medical and commercial organizations. It was the first group to introduce the continuing medical education concept in the form of instructional courses for its members. It was also the first to make specialty board certification one of the criteria for membership.

The early otolaryngologist spent most of his time fighting the effects of infection or neoplasia with pitifully few weapons. With the advent of antibiotics and chemotherapeutic agents, the character of otolaryngology began to change rapidly during the 1950's. Since most infections can be controlled early in their development and eliminated, the need for surgical excision and drainage of diseased tissue was sharply reduced. Otolaryngologists began to devote more of their time to areas which had received less attention because of earlier pre-occupation with saving lives threatened by infection. The advent of sophisticated ear operations for improvement of hearing became possible. One exciting technical development after another has ensued, until now, even tumors of the eighth nerve can be removed via a temporal bone approach, and pituitary tumors are being ablated trans-septally.

**The Ear & Nose-Throat Clinic, P.A., 1200 Medical Towers Building, Little Rock, Arkansas 72205.

*2 Lile Court, Little Rock, Arkansas 72205.

As the incidence of head and neck cancer has increased, it is only natural that patients with this disease have consulted the otolaryngologist first. Otolaryngologists have thus become the primary physicians in management of head and neck cancer. It is estimated that the otolaryngologist does 95% of the head and neck cancer operations in the United States today. Arkansas' otolaryngologists carried out 92% of the surgical procedures performed on the 405 reported cases of head and neck cancer last year.

Strides in plastic and maxillofacial surgery continue to be made, even though otolaryngology has been involved in such surgery since the 19th century. An otolaryngologist of Rochester, New York, Rowe, reported the first endonasal rhinoplasty in 1888. Since the time of Rowe, otolaryngologists have used plastic procedures whenever necessary in their work. Such methods have been applied in ear surgery to shift tissues, to correct deformities caused by cancer which has been removed, to repair congenital deformities, and to provide functional and cosmetic improvement.

Also, the treatment of injuries to the facial skeleton and their complications have been increasingly handled by the otolaryngologist because of his training and experience.

Training and Certification of the Head and Neck Specialist: More than 1,000 physicians are currently enrolled in approved otolaryngology residency training programs. Approximately 330 of these physicians will complete their training this year and enter practice. Programs have been broadened and strengthened over the years to include training in plastic and reconstructive surgery, head and neck oncology, rhinology, laryngology, bronchoesophagology, otology and allergy. (See Table I)

To provide even more highly qualified regional specialists, the American Board of Otolaryngology has increased its requirement for certification to a residency of five years. This additional training is expected to help meet growing needs in patient care, teaching and research.

TABLE I.

Otolaryngology Training Operative Experience

I. Head and Neck

A. Ear and Mastoid

(Excision of tumor of ear and mastoid; partial and radical temporal bone resection; excision of pinna with radical neck dissection, etc.)

B. Salivary Glands

(Total or partial parotidectomy with facial nerve dissection, with or without nerve graft; submandibular gland excision, etc.)

C. Nose and Maxilla

(Lateral rhinotomy; total or partial maxillectomy; radical maxillectomy with orbital exenteration; excision of nasopharyngeal tumors via transthemoid, transantral, or transpalatal approach, etc.)

D. Lips

(Lip shave; wedge resection; Abbe-Estlander flap, etc.)

E. Oral Cavity

(Partial glossectomy; partial mandibulectomy; composite resection — primary and tumor with RND, i.e. primary in floor of mouth alveoli, tongue, buccal region tonsil, or any combination, etc.)

F. Neck — Incision and Drainage of Neck Abscess

(Excision of benign lesions; radical neck dissection; extended radical neck dissection [transsternal mediastinal dissection]; diverticulectomy; cervical or scalene node biopsy; other.)

G. Larynx and Other

(Subtotal laryngectomy [thyrotomy, supraglottic laryngectomy, hemilaryngectomy]; wide field laryngectomy; total laryngectomy with neck dissection; exploration of laryngeal fractures; exploration of recurrent laryngeal nerves; arytenoidectomy; thyroidectomy; cervical esophagectomy with neck dissection; tracheal resection with repair; tracheotomy; major vessel ligation and grafting; arterial infusion procedure; bronchiogenic, thyroglossal, and dermoid cysts and teratomas; other.)

II. Otologic

A. Myringotomy

B. Middle Ear and Temporal Bone Surgery

(Myringoplasty; tympanoplasty with and without mastoidectomy; simple, modified radical, and radical mastoidectomy; fenestration; stapedectomy and stapes mobilization; surgical sinus ablation; facial nerve decompression, graft, or repair; tympanic neurectomy; labyrinthectomy; decompression membranous labyrinth by sacculotomy or endolymphatic sac operations; resection of acoustic neuroma via translabyrinthine or middle cranial fossa approach; VIII nerve section via middle fossa; other.)

III. Plastic and Reconstructive

(Reconstruction of external ear; otoplasty; rhinoplasty; laryngoplasty; tracheoplasty; mentoplasty; rhytidectomy; blepharoplasty; reduction of frontal, nasal, maxillary (LeFort I, II, III), malar, malar with orbital floor, orbital blowout, mandibular, and other facial fractures; pedicle flap procedures of the chest, neck, shoulder-neck, forehead-scalp, cheek; split-thickness, full-thickness, composite, dermal, and other grafts; implants; fascial sling procedures; oroantral fistula repair; choanal atresia repair; correction of prognathism and retrognathism; cleft lip and palate repair; temporomandibular joint exploration; condylectomy; excision of skin lesions; scar revisions and other plastic procedures.)

While it is significant that more than 50% of the specialties resident programs provide more than the minimum training required by the Board, it is important also to note the value of postgraduate medical education available to physicians in practice and in teaching positions. Scientific membership societies and training centers in recent years have sponsored countless conferences, courses, seminars, symposia, workshops and panel discussions to enhance the education and knowledge of those eager to keep abreast of progress. These postgraduate sessions have spawned excellence in soft tissue surgery, refinements in major oncologic surgery with the use of all the necessary reconstructive techniques, extensive experience in flap reconstruction and free-flap transfers, research in wound healing, and more experience with the growth and development of the facial skeleton and related structures. Continuing education has also led to new techniques in blepharoplasty, rhytidectomy, rhinoplasty, and reconstruction of major head and neck deformities.

Certification: It is the American Board's philosophy that the specialty should move ahead on a broad front, and it, therefore, conducts examinations in such a manner as to evaluate the candidate's knowledge in a broad spectrum of head and neck medicine and surgery. About 25% of the questions are devoted to plastic and reconstructive surgery, 25% to head and neck oncology, 25% to otology, and the remaining 25% to general otolaryngology. Surgical experience in preparation for the examination is extensive, according to a recent survey of several resident training institutions. The survey indicated that a resident may perform as many as 1,000 or more surgical procedures and assist in as many as 500 more procedures during his training period. The operations cover five major categories — head and neck, otology, plastic and reconstructive, endoscopy and general.

As might be expected, an increasing number of otolaryngologists are specializing according to their particular interests, abilities and accessibility of clinical material. Thus, currently there are individuals whose practice is devoted to a subspecialty area, such as plastic and reconstructive surgery, oncology, otology or bronchoesophagology.

Interest in facial plastic, maxillofacial and reconstructive surgery has been particularly strong

in recent years. This interest has been generated from work including removal of large basal cell carcinomas with flap reconstruction, major head and neck oncologic surgery, followed by reconstruction, maxillofacial trauma and scar revisions.

The survey of otolaryngology training centers also revealed that a resident may perform as many as 400 facial plastic and reconstructive surgical procedures and assist in more than 100 additional procedures covering the full range of work including otoplasty, rhinoplasty, rhytidectomy, blepharoplasty, facial fractures, pedicle flap procedures, skin grafts, dermabrasion and implants.

A New Identity: Since specialization was first recognized, there has been a trend toward regionalization. Other medical and surgical specialties have recognized this concept, becoming specialists of organ systems or regions.

While otolaryngologists have traditionally been designated as ear, nose and throat or ENT specialists, other medical specialties have had no such identity problem. Urologists are not known as kidney, ureter and bladder, KUB, specialists. Neurosurgeons are not known as nerve, brain and cord men, NBC. Certainly, the letters ENT or ear, nose and throat, do not encompass the surgery of the salivary glands, oral cavity, lips, thyroid, major head vessels, or peripheral facial nerve, nor do they include facial fracture repair, pedicle flap procedures, mentoplasty, rhytidectomy, blepharoplasty, eyelid repair, mandibular surgery, facial implants, scar revisions, bronchoscopy, etc.

Otolaryngology does not simply mean ear and larynx. It is obvious that the name ear, nose and throat no longer truly reflects the broad spectrum of problems that the modern otolaryngologist may treat on a daily basis. After years of growth and expanded scope, otolaryngology has decided to look at itself and recognize, with a name change, its evolution.

The Future: Residents in the future may well be invited to declare special interest in neurotology, head and neck oncology, head and neck plastic surgery during their residency years so that their training may be further strengthened to fit their interests. Quality of the individuals entering the profession increases steadily, as does the quality of the broad training programs provided within our residency institutions. Today's well trained otolaryngologist is no longer an ear, nose and throat physician. He is a head and neck

physician who has mastered the surgical skills of the region, and one who can effectively manage many of the myriad medical disorders of the head and neck. The specialty of otolaryngology is clearly constructed of subspecialty building blocks, including oncology, otology, plastic reconstructive and maxillofacial surgery, endoscopy and so on. The future emphasis on a particular interest, with associated intensive training, and control of clinical material, will lend itself to superspecialization. This superspecialization will

continue to enhance the quality care provided to today's Americans.

Many otolaryngologists have been working in cooperation with organized medicine for years to prepare for this evolutionary change to a regional specialty. One final step, that of selecting a new name, has been taken. Otolaryngology will be known in the future as head and neck medicine and surgery—a title certainly more descriptive and fitting of the regional application of the specialty.



Prophylaxis of Post-Operative Deep Vein Thrombosis and Pulmonary Emboli

R. E. Casali, M.D., and J. Hale, M.D.*

How can post-operative deep vein thrombosis and subsequent pulmonary emboli be prevented in surgical patients? Since 1846, when Virchow's¹ necropsy studies elucidated the association between thrombosis of deep leg veins and fatal pulmonary emboli, physicians have searched for an answer to this important question.

The incidence of fatal post-operative pulmonary emboli is 5/1000 patients.² Most pulmonary emboli (50-80%) occur without premonitory signs of peripheral venous thrombosis, and 2/3 of the deaths occur within thirty minutes of the embolic event. Hence there may be little time for instituting treatment of pulmonary emboli.

The impact of post-operative deep vein thrombosis and pulmonary emboli can be demonstrated by considering the large numbers of patients involved. It is estimated that five million patients over 40 years of age undergo major general surgical procedures annually. If one assumes that 2.5/1000 die from post-operative pulmonary emboli (a conservative estimate) and prophylaxis for deep vein thrombosis and pulmonary emboli is 80% effective, then 10,000 lives could be saved annually.

Data have accumulated that prophylaxis against deep vein thrombosis is effective. However, there is controversy concerning whether prophylaxis against deep vein thrombosis prevents fatal pulmonary emboli. This article will review the current literature on prophylaxis of deep vein thrombosis and pulmonary emboli, delineate subgroups of patients at high risk for thromboembolic events, and make recommendations regarding prophylaxis.

Pathophysiology — Virchow, in the mid-nineteenth century, was fascinated by the cause and effect relationship between lower extremity deep vein thrombosis and pulmonary embolism. His frequently-quoted triad of (1) venous endothelial damage, (2) venous stasis, and (3) hypercoagulability of blood, postulated the conditions that led to thromboembolic events.

The site at which the thrombus first forms varies but it is usually the calf.³ In general surgery patients, the calf is by far the most common site, but in orthopedic patients (hip surgery) the femoral and iliac veins are often involved first. This is important because calf-vein thrombi seldom embolize and if so they are small non-fatal emboli, whereas, ilio-femoral thrombi frequently embolize to the lungs and may be lethal. Calf-vein thrombi are dangerous in that approximately 20% propagate to the ilio-femoral system which can give rise to large pulmonary emboli.^{4,5}

In summary, deep vein thrombi of the lower extremity may originate at different sites independent of each other. The site at which the thrombus initially forms depends on the patient's illness. Patients in whom stasis (bed rest) is the main risk factor are more prone to develop calf-vein thrombi. Trauma to the lower extremity or hip surgery pre-disposes mainly to iliofemoral thrombi.

DIAGNOSIS

If one relies solely on clinical criteria, only 3.5% of post-operative general surgery patients will be diagnosed as having calf deep vein thrombosis.^{2,6-8} With the use of the radio-iodinated fibrinogen scan, 27% of patients can be demonstrated to have calf deep vein thrombosis post-operatively.⁹⁻¹¹ It is estimated with the use of perfusion lung scans that 15-45% of patients with deep vein thrombosis will have pulmonary emboli. Of patients with thrombi, only 1.8% will develop clinical evidence of pulmonary emboli of which 1/3 (0.6%) will be fatal.^{2,6-8} Therefore, the majority of lower extremity deep vein thrombosis and pulmonary emboli are clinically silent and cannot be diagnosed unless searched for by laboratory tests. Several non-invasive tests and contrast phlebography are commonly used in the diagnosis of lower extremity deep vein thrombosis.

I¹²⁵ fibrinogen test — Fibrin is incorporated into a forming thrombus and this may be documented with I¹²⁵ labelled fibrinogen. Labelled fibrinogen is given intravenously and the legs are scanned at 24hrs, 48hrs, and 72hrs for increased

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radio-activity indicative of excessive uptake in areas of thrombosis. The test is very sensitive for calf deep vein thrombosis with 95% accuracy, but it is insensitive for ilio-femoral and pelvic thrombi because of the background radio-activity of the bladder and hip. The major use of this test has been in monitoring patients on clinical trials for prophylaxis. I^{125} fibrinogen has only recently been released for use in this country, but it has been in use in Europe for many years.

Plethysmography — Venous outflow plethysmography (Figures 1 and 2) permits detection of thrombosis of the major deep veins at and above the knee (ilio-femoral) with an accuracy of approximately 95%.^{12,13} The technique is insensitive for calf-vein thrombosis and is nonspecific, since any type of venous obstruction, intrinsic or extrinsic, may result in reduced venous outflow.

The phleborheograph is generally quite sensitive to major deep venous thrombosis of the ilio-femoral system. The sensitivity has been reported to exceed 95%.¹⁴ Like venous outflow plethysmography it is non-specific. Also, the test requires more time and skill to perform than venous outflow plethysmography. The initial cost of the phleborheograph is approximately twice that of venous outflow plethysmography and it is for these reasons that we use the latter.

Radionuclide Phlebography — The sensitivity of radionuclide phlebography in detecting ilio-femoral thrombi is 90%.¹⁵ The test is insensitive for calf-vein thrombi. Disadvantages of this technique include a relatively high cost, lack of portability and poor resolution.

NORMAL

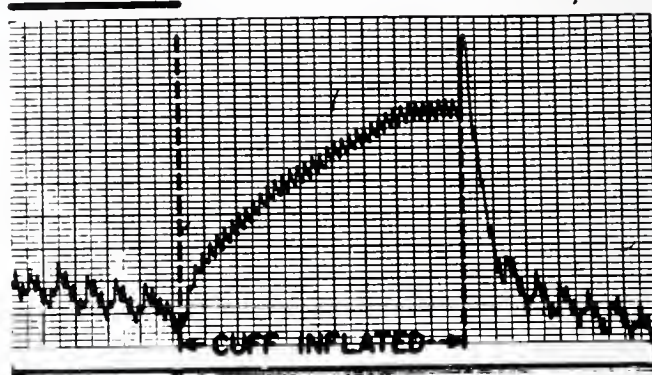
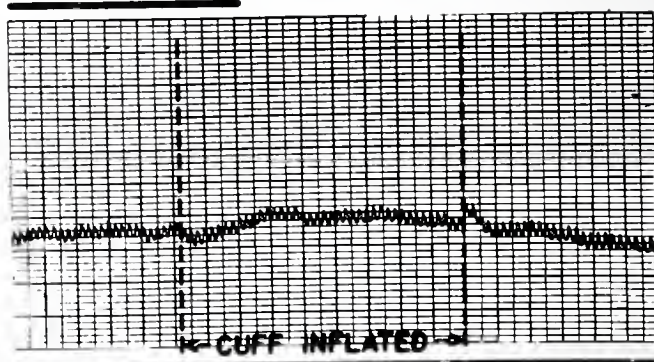


FIGURE 2.

ABNORMAL



Doppler Ultrasound — In a relatively few experienced centers,^{16,17} the doppler ultrasound velocity detector permits identification of ilio-femoral thrombi in approximately 95% of patients. It is insensitive for most calf-vein thrombi. Unfortunately, the technique involves sound pattern recognition, and vast experience with the method is necessary to achieve maximal accuracy.

Contrast Phlebography — Contrast phlebography is considered the diagnostic gold standard for assessment of venous thrombosis. With proper

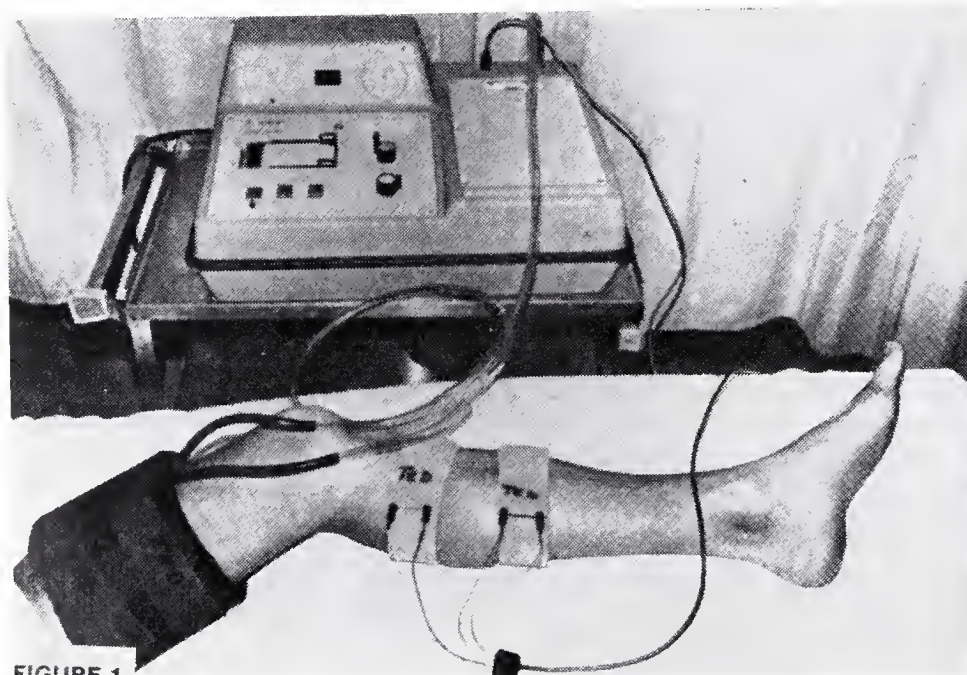


FIGURE 1.

technique, this method permits documentation of the presence of thrombi in all deep and superficial veins. Disadvantages include its expense, small risk of inducing thrombosis, and lack of portability.

In summary, in the majority of post-operative patients, deep venous thrombosis is clinically silent. Unless diagnostic tests are performed, the disease will not be recognized in most patients. Fatal or non-fatal pulmonary emboli may occur or chronic venous insufficiency may develop later. Thus, it is important to diagnose or prevent deep vein thrombosis whether it is apparent or is clinically silent.

PROPHYLAXIS

Prevention of deep vein thrombosis can be accomplished by several means:

DRUGS

- (A) Heparin
- (B) Dextran
- (C) Anti-Platelet (Aspirin)
- (D) Warfarin (Coumadin)

MECHANICAL DEVICES

- (A) Elastic Stockings
- (B) Intermittent pneumatic compression of the calf
- (C) Electrical stimulation of the calf

Heparin — Heparin was discovered in 1916 by J. H. McLean, a sophomore medical student at Johns Hopkins University, while he was studying the procoagulant activity of blood. A Swedish thoracic surgeon, Crawford, first used heparin for the treatment of thromboembolic disease in 1936. In 1961, Barret and Jordan established that intravenous heparin lessened the mortality from pulmonary emboli.

Heparin prevents the formation of a thrombus by acting in concert with a naturally-occurring plasma protease inhibitor known as antithrombin III or heparin co-factor. Antithrombin III acts specifically against activated Factor X (Xa) and thrombin, thus halting intravascular coagulation. Theoretically, small doses of heparin, given prior to the formation of thrombin, can prevent thromboembolic events. Based on this hypothesis, Sharnoff in 1966 first reported a decrease in thromboembolic disease in surgical patients using "low-dose or mini-heparin" as prophylaxis.¹⁸ He also demonstrated that effective prophylaxis required the first dose of heparin to be given pre-operatively, thus preventing the hypercoagulable state. Sharnoff's study was non-randomized and thus in-

conclusive. No data were obtained on the incidence of deep vein thrombosis as death caused by pulmonary emboli was the only end point evaluated. Since then, several prospective randomized clinical trials on the use of mini-heparin in preventing deep vein thrombosis have been reported.^{6,19-28} From these studies, the mean incidence of calf deep vein thrombosis in general surgery patients has been 27% in the control group and 6% in the mini-heparin group. All of the trials, except two, demonstrated a statistically significant reduction in deep vein thrombosis. The dose of heparin used in these studies was 5000 units subcutaneously 2 hours pre-operatively and 5000 units subcutaneously every 8 or 12 hours post-operatively.

Hence, data rapidly accumulated validating the use of mini-heparin for prophylaxis against deep vein thrombosis. However, it was difficult to demonstrate a significant decrease in the rate of fatal pulmonary emboli from these studies. This occurred because of two reasons; first, pulmonary emboli are less common than deep vein thrombosis thus requiring large numbers of patients in each independent study to achieve statistical significance. Second, pulmonary emboli are difficult to diagnose accurately by non-invasive methods.

In 1975, Kakkar attempted to answer this question by organizing one of the largest studies published on this subject.⁶ This study was a prospective randomized, multi-center trial encompassing 4,121 patients over age 40 undergoing a variety of major surgical procedures. The primary end point was fatal pulmonary emboli proven at post-mortum examination. The incidence of calf deep vein thrombosis was examined by the use of the I¹²⁵ scan technique. This trial has been considered critical because if the conclusions were positive: an effective mode of anti-coagulant prophylaxis would be established, most cases of post operative pulmonary embolism would be eliminated, and the number of patients placed on such prophylaxis would increase. Also, it is unlikely another study of this magnitude will be undertaken in the near future.

Of 4,121 patients entered into the trial, 2,076 received no prophylaxis, and 2,046 received low dose heparin (5000 units subcutaneously 2 hours pre-operatively and at 8-hour intervals post-operatively) for seven days. If a diagnosis of pulmonary embolism or deep vein thrombosis was made during the treatment period, the patient

was treated in accordance with the usual practice of the participating center.

One hundred and eighty (4.6 percent) patients died during the post-operative period — 100 in the control and 80 in the heparin group. Autopsies were performed in 72 percent of the controls and 66 percent of the heparin group. Sixteen deaths in the control and two in the heparin group were ascribed to massive pulmonary embolism ($P < 0.002$). An additional six patients in the control group who died had emboli, as did three in the heparin group, but these emboli were regarded as incidental, since other causes of death were found. Taking all pulmonary emboli together, the finding of a four-fold reduction (22 vs. 5) was statistically significant ($p < 0.005$).

The only adverse effect related to the heparin therapy was an insignificant increase in the number of wound hematomas (117 in the control and 158 in the heparin group). The number of transfusion requirements in each group were the same.

Criticisms of the trial are: whether the autopsy rate was high enough to avoid imbalances between autopsied and non-autopsied cases, the ratio of fatal to non-fatal pulmonary embolism was too high, and to what extent bias could have affected the outcome since there was no independent review of the data by blinded persons. Nevertheless, the general conclusion of the trial, as reviewed by Sherry,²⁹ was that mini-heparin is an effective and safe form of prophylaxis for post-operative venous thromboembolism in patients over age 40 undergoing major surgical procedures.

Dextran — Dextran is a glucose-polymer volume expander that also has antithrombotic properties. It interferes with factor VIII antigen and von Willebrand cofactor which are both related to platelet function. Dextran prophylaxis is as effective as mini-heparin and coumadin.³⁰⁻³⁴ Its effectiveness is proved in general surgery, orthopedic, gynecologic and urologic surgery. Dextran prophylaxis is carried out as follows: Infusion (500 ml) is begun with the induction of anesthesia and finished by the end of the operative procedure. Thereafter, beginning with the first post operative day, 500 ml is administered daily over 4-6 hours for 3 days. Dextran 70, which is less expensive than dextran 40 has been used in most studies, but both are equal as anti-thrombotic agents.

A recently completed study³³ compared dextran 70 and mini-heparin as prophylaxis against

fatal pulmonary embolism. This was a randomized, prospective, multicenter study involving 4,528 general surgery, orthopedic, and urology patients. Seventy-five patients died, 38 had received dextran and 37 had received mini-heparin. Autopsy was performed in 33 and 32 of these cases respectively. In six cases in each group, pulmonary embolism was the sole or contributory cause of death, thus no difference was found between dextran and mini-heparin. Withdrawal of drug because of hemorrhage was more common in the heparin group, but allergic reactions, the most important side effect of dextran, were more common in the dextran group. From these data, it can be concluded that dextran is a safe and effective drug for the prevention of deep venous thrombosis and fatal pulmonary embolism.

Anti-platelet agents (aspirin) — Aspirin has not been shown to be effective except possibly in orthopedic patients. Even in those patients it is sex dependent and not effective in females.³⁵

Coumadin — Coumadin has been studied and found highly effective, but its use leads to bleeding complications more commonly than do other methods. It should be limited to extremely high risk patients such as patients undergoing total hip replacement with a previous history of venous thromboembolism.

MECHANICAL DEVICES

Elastic Stockings — One study³⁶ demonstrated a reduction in deep vein thrombosis with graduated compression stockings. No data are available concerning their effect on pulmonary embolism.

External Pneumatic Compression — Of the physical methods used to reduce deep vein thrombosis this method has been the one most widely studied. The results are comparable to mini-heparin in that the incidence of deep vein thrombosis has been reduced from 27% to 8%.³⁷⁻⁴⁰ The effect on the incidence of pulmonary embolism has not been evaluated in a sufficient number of patients. No bleeding has been encountered with this method and the drawbacks to the system are that it is cumbersome and patient acceptance has been a problem.

Electrical Stimulation of the Calf — In a small number of patients it has been effective in reducing deep vein thrombosis. No data are available regarding the reduction of pulmonary embolism.

DISCUSSION

Deep venous thrombosis and pulmonary embolism are a common preventable entity. Two

approaches can be taken: First, early detection of sub-clinical venous thrombosis by screening of high risk patients (I^{125} fibrinogen leg scanning) and second, prophylaxis, employing either drugs or physical methods. Prophylaxis is likely to be more effective, less costly and more widely applicable. The evidence that low-dose heparin or dextran is effective in preventing deep venous thrombosis is overwhelming. A reduction in pulmonary embolism has been more difficult to demonstrate but the data of Kakkar⁶ and Gruber³³ are persuasive.

The acceptance of both low-dose heparin and dextran has been delayed because of fear of hemorrhagic complications. Clinically significant bleeding has rarely occurred with low-dose heparin or dextran. In the large clinical trials transfusion requirements have been the same in both heparin and control groups. Dextran has rarely been associated with anaphylactoid reactions. Therefore, the relative safety of dextran and low-dose heparin prophylaxis has been demonstrated.

Which individual patients require prophylaxis? At present, it is not possible to identify with a high degree of accuracy which patients undergoing major surgical procedures will develop venous thrombosis and pulmonary emboli. Based on the data presented, a "relative risk" classification of patients can be formulated (Table I). We recommend prophylaxis with either low-dose heparin or dextran for any patient undergoing major surgical procedures in the mild, moderate or high risk group. Certainly, the onus is on each physician and surgeon to select and use an effective prophylactic approach for patients in the moderate and high risk groups. In general surgery patients, heparin or dextran has been equally

effective, whereas in orthopedic (hip) patients dextran has been more effective.

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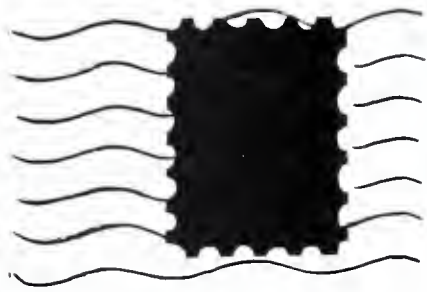
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TABLE I
DEEP VENOUS THROMBOSIS
(RISK)

- | | |
|-----------------------------|---|
| 1. MINIMAL - | GENERAL SURGERY < 40 YEARS |
| 2. MILD - MODERATE - | GENERAL SURGERY > 40 YEARS |
| 3. MODERATE - HIGH - | GENERAL SURGERY |
| | A. > 40 YEARS |
| | B. HEART FAILURE |
| | C. CANCER |
| | D. PREVIOUS DVT |
| | E. VARICOSE VEINS |
| | F. MASSIVE OBESITY |
| 4. HIGH - | A. HIP SURGERY (ELECTIVE) |
| | B. TRAUMA (PELVIC AND/OR LONG BONE FRACTURE) |

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LETTERS TO THE EDITOR

To The Editor:

William W. Darrow, Ph.D., is a research sociologist for the Center for Disease Control's (CDC) Venereal Disease Control Division. In a recently published article he indicated that in the 70's there seemed to be a lackadaisical attitude of physicians in diagnosing, treating, reporting and follow-up of venereal disease.

Diagnosis: In a study of 900 physicians in the United States, 27% of 322 physicians who had tested for gonorrhea did not use a selective culture medium. Of the 2,154 women tested for gonorrhea, only 61.1% were tested by the Thayer-Martin culture medium. Nearly 40% of the women were not given this most sensitive test. An estimated 30% of women with gonorrhea who were tested were not diagnosed.

Treating: In 1974 a one-month study revealed that 129 physicians treated half of their female gonorrhea patients with penicillin and used appropriate antibiotics on most of the others. However, 21.5% of the patients diagnosed as having gonorrhea received less than the minimum therapy recommended by the CDC.

In an earlier study of gonorrhea cases reported to the Oregon Health Department, 29% of men were treated with inappropriate antibiotics, and 33% of those treated with antibiotics were not given the correct dosage. Of the women in the study, only 52% received both appropriate and adequate treatment.

Reporting: Retrospective studies showed in 1970 that physicians appeared to report about 12% of cases of syphilis and about 10% of cases of gonorrhea. Later studies suggest that the reporting rate for gonorrhea is between 40 and 50%, but that still leaves a large gap between reported and diagnosed cases.

Follow-up: In a 1978 study of a midwestern city, it was estimated that only 56% of 309 cases

of gonorrhea were tested for cure in a follow-up visit.

We have seen several cases of inappropriate treatment of gonorrhea by local physicians in our venereal disease clinic here in Pulaski County.

Gordon P. Oates, M.D.
Medical Director
Pulaski County Health Dept.

* * * *

PHOTOCOAGULATION OF THE RETINA IN DIABETES MELLITUS

To The Editor:

It was with pleasure that I read the excellent article "Recent Development in Diabetes Mellitus" by Lewis Sanders, M.D. (February 1981). It brought me up-to-date on important aspects of diabetes in an understandable style.

I would also like to mention that photocoagulation of the retina has been an important recent development which is preventing blindness in diabetics. While it was suspected that photocoagulation benefited patients with proliferative retinopathy its effectiveness has now been scientifically proven through a national cooperative study, The Diabetic Retinopathy Study (DRS).^{1,2} It concluded that useful vision can be prolonged in proliferative retinopathy which has been treated with photocoagulation, either argon or xenon modes.

Diabetics with a ten to fifteen year history are definitely at risk and deserve a thorough ophthalmologic examination since the early stages are usually asymptomatic and by the time symptoms appear the proliferative retinopathy is often far advanced.

A similar national cooperative study, The Diabetic Vitrectomy Study (DVS), is underway to evaluate the possible positive effects of vitrectomy in severe diabetic retinopathy with hemorrhage in the vitreous. Hopefully a report will be available in the not too distant future.

Finally, I might point out that preservation of even minimal vision is very important to the physically restricted end-stage diabetic.

R. Sloan Wilson, M.D.

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ELECTROCARDIOGRAM



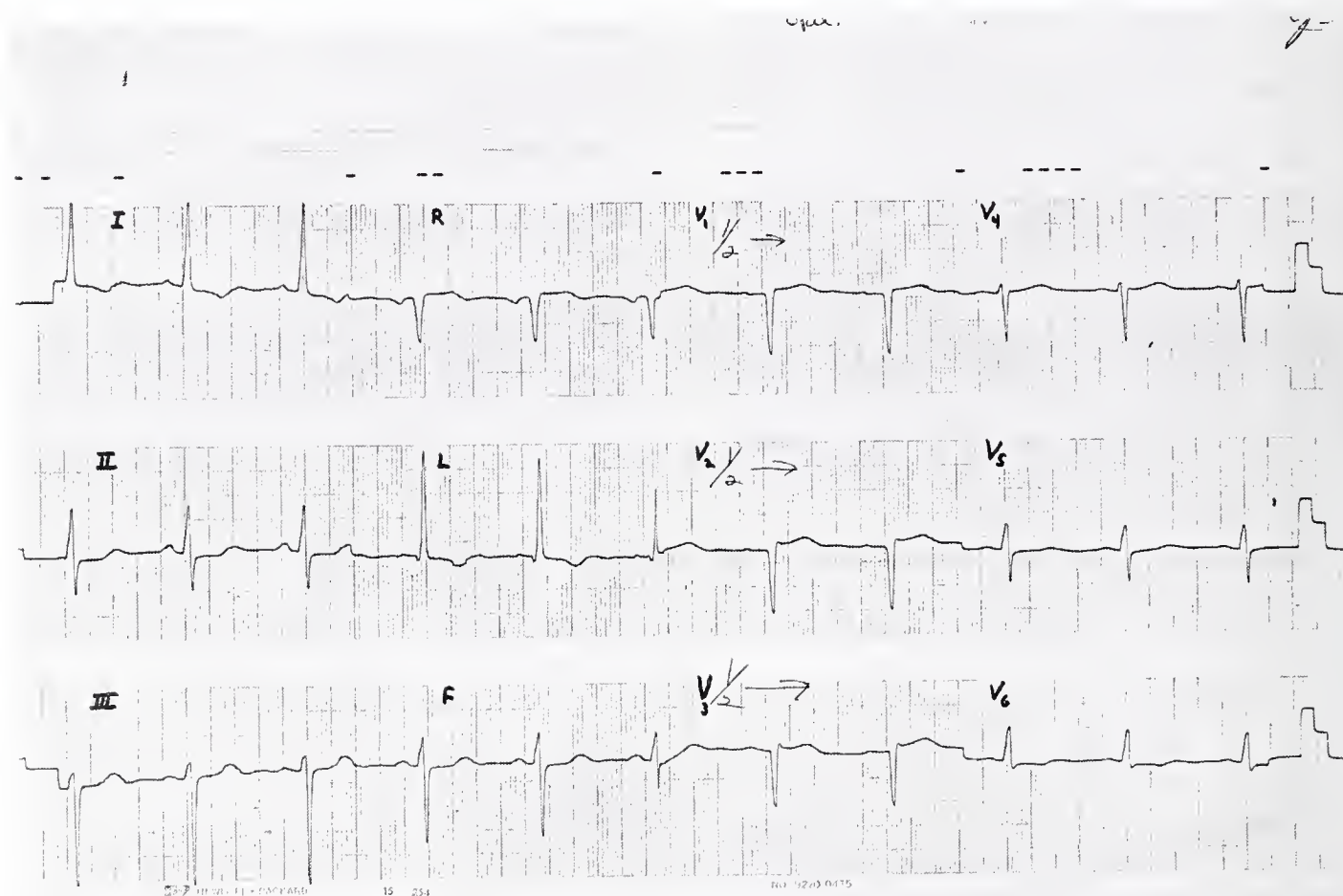
OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine
(See Answer on Page 378)

HISTORY: D. S. is a 62-year-old man who presented to the emergency room with orthopnea, paroxysmal nocturnal dyspnea, and angina. He gave a past history positive for hypertension of ten years duration and for myocardial infarction six years previously. On physical examination, the blood pressure was 180/120 mmHg and retinal hemorrhages, rales, and a cardiac gallop were present. The ECG is shown.

The presence of which of the following is suggested by the trace?

- A. Left ventricular hypertrophy.
- B. Left bundle branch block.
- C. Ventricular aneurysm.
- D. Acute infarction.
- E. Past infarction.
- F. Electrolyte imbalance or drug effects.



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The Management of Adult Idiopathic Scoliosis

Charles C. Schock, M.D.*

It had been assumed some years ago that problems associated with idiopathic scoliosis ceased when the patient obtained skeletal maturity. Some patients recall being told that once the iliac apophysis had dipped, no further problems would be anticipated and they were discharged from further follow-up. As these patients launched into their adult lives, a meaningful follow-up was difficult or impossible to obtain, especially in our mobile society.

Those involved in the treatment of spinal disorders have seen a disconcertingly large number of adult idiopathic scoliosis patients with problems of one sort or another, causing a suspicion that the problem of adult idiopathic scoliosis did not simply go away, but rather was either being accepted by the patient without complaint, or was being treated symptomatically without being reported.

Coonrad in the middle 1970's in a selected series demonstrated a striking and unexpected progression of idiopathic scoliosis in adults which had occurred following skeletal maturity.¹ Drummond and co-workers reported on an untreated series of idiopathic scoliosis patients, and indicated that unemployment, cosmetic deformity, social stigmatization and pain were common among the adults with idiopathic scoliosis.²

The management of adult idiopathic scoliosis, then, consisted on one hand of attempting to avoid the negative factors of pain, cardio-pulmonary compromise, cosmetic deformity and social

stigmatization, with their associated disability, while at the same time seeking to minimize the risks associated with treatment. If surgical treatment is to be considered, it is of course best carried out at the youngest possible age. In the adolescent undergoing scoliosis surgery, the risks of death and paraplegia are well below one percent and other risks such as pseudoarthrosis with the need for repeat surgery, infection, or other medical problems are slightly greater than one percent. For ordinary curves and uncomplicated cases, these risks in the adult may be two or three times that experienced in the adolescent, and for complicated curves, they may be increased another two-fold.³ One must therefore seek to determine in which cases the risks of surgical intervention are justified and in which cases non-surgical methods offer a greater chance of health and happiness to the patient. In seeking these answers with the patient, the art of medicine looms large in comparison to the amount of hard data available, but none-the-less, some knowledge is at our disposal.

One factor which seems to be important is that of curve stability. Blount has analyzed the effects of pregnancy on curve progression and concluded that the curve which maintains an angular value within a few degrees over a course of several years may be considered stable and will probably not be affected by a pregnancy.⁴ It is also felt that a curve which maintains a relatively constant angular value over a long period of time will be less susceptible to the typical fatigue pain which is the bane of many adult scoliotic patients. Stable

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curves which are not large enough to cause cardio-pulmonary compromise can more than likely be managed conservatively. At the other extreme, curves which are progressive and symptomatic in young patients who contemplate family or career responsibilities may well be given the greater consideration towards surgical management. There is a "golden period" for females between the ages of 16 and 21, in which the spine is for all practical intents and purposes, adult, and yet the patient has frequently not yet taken on adult responsibilities. The curve may be observed on a yearly basis over these five years, and if the patient is asymptomatic and the curve stable, she may be advised to proceed with her adult plans without prior surgery. Surgery may, of course, be carried out later in the 30's or 40's despite a moderate increase in surgical risks, but it is frequently more difficult for the patient to break away from her responsibilities for the better part of a year that is required for fusion to take place. In addition, the number of post-operative years during which the adult patient will reap the benefits of surgical correction and stabilization is correspondingly reduced, and hence the risk-benefit ratio becomes progressively weighted toward risk as age increases.

The specific curve pattern is another determining factor in the management of adult scoliosis in two major areas, namely that of cardio-pulmonary compromise and the pattern of pain associated with these curves. Thoracic curves and double thoracic and lumbar curves are, of course, most prone to cardio-pulmonary compromise, especially in those curves in which a large amount of rotation occurs. One observes in curves above 60° that there is a progressive decrease in pulmonary function, generally correlated with the magnitude of the curvature.⁵ It has been observed following scoliosis surgery that the degree of improvement of the curve is not matched by a corresponding improvement in the pulmonary function. Rather, the basis for scoliosis surgery is to prevent worsening of pulmonary function in a patient that is already compromised.⁶ The key to successful management is periodic examinations at the regular intervals which include assessment of pulmonary function. At one extreme, a young and otherwise healthy patient with a moderately severe thoracic curve and pulmonary function about the fiftieth percentile would probably benefit from surgery at a younger age, rather than allowing the pulmonary function to further deteriorate as

age progressed. On the other hand, a more elderly patient with a pulmonary function of 50% which had been stable for a period of time, may well be managed by non-operative means, because of the increased risks of surgery and the reduced potential benefit.

There is some indication recently that while pulmonary function tests per se are not improved by traction or surgery, combined cardio-pulmonary function as manifested in exercise potential and energy conservation may be improved by curve correction.⁷ In addition, a patient with a very large thoracic curve and severely decreased pulmonary function can be improved pre-operatively by skeletal traction, provided this is done prior to irreversible cor pulmonale.

While cardio-pulmonary compromise is a more prominent consideration in thoracic curves, the presence of pain is frequently a more prominent component of the thorocolumbar and lumbar curves. Pain must be separated into four distinct categories. The first of these is so-called fatigue pain. It may occur in the thoracic spine, but it is more common in the thoracolumbar and lumbar spine, particularly in the case of a lumbar curve where there is significant obliquity of a lower lumbar segment or in a thoracolumbar curve where there is obliquity and a lateral listhesis at the thoracolumbar junction.⁸ The latter occurs in an area of spinal motion transition and the least intrinsically stable area in the thoracolumbar spine. Fatigue pain typically occurs following several hours of work and once established, is progressive. It is relieved by rest, but recurs when activities are resumed. Fatigue pain can be progressively disabling, and is relieved in a high percentage of cases by surgical arthrodesis.⁹ The second type of pain associated with scoliosis is costo-iliac pain in curves in which the thoracic cage has been thrown against the pelvis by the underlying spinal deformity. This, too, is generally relieved by surgical correction. The third type of pain, typical lumbar nerve root compression, is also rarely observed in the scoliotic patient. It is generally managed by several means which have been effective in the non-scoliotic patient, with surgical decompression being reserved for those patients with specific progressive neurologic deficit, corresponding myelographic findings, and signs of nerve root tension.³ Lacking concrete surgical indications, these patients will respond in a high percentage of cases to rest,

anti-inflammatory and/or steroid medication and progressive back rehabilitation. The fourth kind of pain, mechanical low back pain, may also be seen and treated by routine measures including rest when appropriate, heat and physiotherapeutic measures, exercises and weight reduction. There is some controversy as to whether or not an increased incidence of low back pain occurs following scoliosis fusion to L-4. While there have been conflicting reports concerning this, it does seem clear that failure to account for the rod appropriately due to the lumbar curvature producing a retrolisthesis of L-4 is definitely associated with post-operative low back pain.¹⁰

The treatment of pain is, of course, a highly complex subject. Certainly, the patient's psychological make-up should be assessed, possibly best initiated by use of an MMPI. Supportive care, including adjustment of the patient's occupational demands when possible while working out other traumatic elements in the patient's life, and judicious bracing, especially in the elderly patient, may allow one to more successfully manage scoliotic pain. Localized facet injections or rhizotomies have been reported as successful when the symptomatology appears to be confined to a limited number of segments. As in other conditions associated with chronic pain, centrally acting analgesic agents should be avoided if at all possible on a long term basis, but peripherally acting anti-inflammatory medications are frequently helpful. We have found a pre-operative Risser body jacket useful in assessing potential pain relief following arthrodesis.

Psychosocial complaints associated with scoliotic curvature is perhaps the most difficult aspect to evaluate. Some authors have noted an increased incidence of failure to marry in the females with untreated scoliotic curves,¹¹ while other studies have noted a relatively normal family life for scoliotic curves that have been surgically treated.¹² Although it is difficult to assess the specific role of surgery on psychosocial quality of life by comparing dissimilar large groups of patients, this area remains an important consideration in evaluating the impact of scoliosis on a given patient. It is no doubt true that the cosmetic appearance of many patients may be improved by scoliosis surgery, and this may well play an important role in the patient's subjective consideration as to whether or not to have a procedure carried out.⁷ It is, of course, desirable to

place most emphasis on the removal of the disabling pain and the prevention of cardio-pulmonary disability when considering surgical indications for a given patient.

In perhaps no other orthopedic area is the art of medicine so important as in the field of the management of adult scoliosis. There is no substitute for an open, protracted, and sometimes repeated exposition of the pros and cons of surgical versus non-surgical treatment in a given patient. It is desirable to attempt to allow the patient to assess the realities of both the potential complications of treatment and the anticipated beneficial effects of the treatment in his or her own life situation. A sympathetic and knowledgeable orthopedist, armed with the best information available, can render a great service to the patients in the choice of a course which may well affect the quality and duration of their entire life.

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EDITORIAL

Interstitial Lung Disease

Alfred Kahn, Jr., M.D.

A good deal has been written about lung disease in the past. Most of the articles pertain to neoplastic disease and infectious disease. In the more recent past, a good deal of attention has been given to research on interstitial lung disease. A particularly good article has been written by Crystal, Gadek, Ferrans, Fulmer, Line, and Hunninghake (*American Journal of Medicine*, Volume 70, page 542, March, 1981).

As the authors point out, these diseases comprise a variety of disorders that are totally unrelated. They also point out that the name interstitial lung disease really does not fit the group of disorders usually classified as such because the disorder not alone affects the wall between the alveoli, but the disorders also tend to affect the alveolar epithelium, the air passages, the arteries, and veins. They state that the so-called interstitial lung disease comprises 15% of all diseases seen by physicians specializing in pulmonary diseases.

In this article are two very interesting charts. In one chart they outline the known causes of interstitial lung disease which include inorganic dusts as silica, powdered beryllium, etc.; organic dusts as living sources of bagassosis, malt worker's lung, etc. — there are also chemical sources as chemical fibers; gas fumes, vapors, and aerosols; drugs as chemotherapeutic agents, certain antibiotics, etc.; poisons; radiation; infectious agents; and lastly, interstitial disease caused by chronic uremia. The second chart outlines unknown causes of interstitial lung disease which include idiopathic pulmonary fibrosis, chronic interstitial disease associated with interstitial collagen disorders, sarcoidosis, histiocytosis, Goodpasture's syndrome, iron disease, Wegener's disease, lymphocytic infiltrative disorders, vascular disease, inherited diseases, and others.

Crystal, et al, state that the pathogenesis of in-

terstitial lung disease consists of a stimulus in the lung leading to alveolitis which, in turn, leads to the derangement of alveolar structures. This, in turn, leads to a loss of alveolar-capillary function; this latter disorder is the so-called end-stage lung disease. It is said that regardless of cause, this is the usual evolving pattern of pathology in interstitial lung disease. It is of interest that the authors suggest that interstitial lung disease is reversible to a fair degree, if not completely, as long as the epithelial and endothelial basement membranes are intact. The end-stage of interstitial lung disease looks similar pathologically, despite the cause. The alveolitis — the earliest stage — may show distinctive characteristics depending on the stimulus which produced it. In normal individuals, the macrophage is the principal effector cell. The lymphocyte is said to be the next most frequent cell; whereas the macrophage comprises 90%, the lymphocyte comprises less than 10% of the effector cells; the subgroups of lymphocytes in the lungs are the same as in the blood. Neutrophils are uncommon in the lung of non-smokers. When inflammation sets in, the alveolitis is characterized by a change in the distribution of the inflammation and effector cells in a pattern which may be characterized for certain diseases — but in any event, the proportion of the cells to each other changes. The maldistribution of cells in diseases of the lower respiratory tract are present in acute diseases as pneumonia — in chronic interstitial lung disease the change in the effector and inflammatory cells tends to be chronic. The authors state that in alveolitis the alveolar macrophages and lymphocytes may play a key role by releasing chemical substances which attract neutrophils and which activate neutrophils; activated neutrophils release collagenase which may, in turn, attack the collagen in the alveolar structures.

The alveolar lung diseases can be studied in various ways. Crystal, et al, state that open lung biopsy is the best current method available for staging alveolitis.

The bronchial biopsy is less successful because the tissue specimen is small and may not be representative.

The authors state that the blood studies may be somewhat helpful in staging lung disease, but since the inflammatory and immune process in the blood may act quite differently, blood studies should not be relied on to any great extent.

They state that chest films are somewhat helpful, but they are rather non-specific; the usual pattern is a ground-glass appearance, then a nodule appears, later cystic areas, and finally honey-comb appearance. It appears that X-ray studies demonstrate only rather advanced alveolitis.

Physiologic tests are of a little help in staging alveolitis, but advanced disease is usually present before the usual physiologic parameters change too much. In short, there is not a good parallel between the inflammatory reaction in the alveolus and the pulmonary function tests.

Gallium scan has been introduced as a means of staging alveolitis. In certain disorders it seems to be a fairly sensitive method of determining alveolitis. The authors express some enthusiasm for this method. The greater the uptake of gallium, the greater the activity present. The gallium scan may provide some index of severity of the alveolitis and may also show the geo-

graphical areas of alveolitis.

Bronchoalveolar lavage is another technique of studying interstitial lung disease. To be useful, it must be performed correctly — and fluid must be obtained from the most distal portions of the lung. Instilled fluid can be recovered at a rate of approximately 50% and is of value in showing a fairly representative spectrum of the cells in the alveolus — plus the fact that it washes out a certain amount of protein which can be measured. The bronchoalveolar lavage can be used not alone for diagnosis, but for prognosis.

Crystal, et al, outline their idea of treatment in this article. Firstly, the etiology of the disorder should be discovered if possible. Secondly, the alveolitis should be treated quickly before permanent damage is done. Lastly, the treatment for alveolitis should be “aggressive and life long” in order to prevent end-staging disease developing in some of the less damaged alveoli which are present at the outset of treatment. They recommend the appropriate use of adrenal cortical steroids as a major therapeutic tool. Some of the other drugs mentioned are azathioprine, penicillamine, chlorambucil, cyclophosphamide and vincristine.

The article of Crystal, et al, is easy to read, informative and stimulating. Information concerning interstitial lung disease is well known to pulmonary physicians and surgeons, but physicians and surgeons in general have neglected this disorder.

*“From Other Years”**

(From UAMS Library, History of Medicine Archives Division.)

Journal of the Arkansas Medical Society

8(4):160-161 April, 1897

Report from Phillips County Medical Association Society Locals and Personalities

The absence of several of the members from the society during the last two or three meetings has been noteworthy, but highly excusable. They were the victims of “outrageous fortune,” as the following will attest: Dr. J. W. Bean, the vice president-elect, succumbed to typho-malarial fever, complicated with meningitis, seriously sick

for nearly three months. Dr. T. C. Linthicum thrown from his horse, dislocating his knee and fracturing the fibula. Dr. J. H. Vineyard, one of the founders of the association, the wit and one of its most valued members, was stricken with paralysis. All have now reached the convalescent stage, except Dr. Vineyard, whose condition is critical — almost hopeless.

The recent smallpox epidemic was brought to a speedy termination, thanks to the activity of the Board of Health and the valued assistance of Dr. Russwurm, acting city physician. He was the recipient of praise from profession and laity for the efficiency displayed in handling and stamping out the disease in a comparatively short time.

MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

The Reagan Administration and Congress have plunged into a bitter battle over the government budget that could affect all federal programs, including health.

The President has stressed his determination to reduce government spending and his irritation at Congress for not cutting deeply enough by vetoing a continuing resolution to keep the government operating.

The dramatic veto technically brought the government to a halt for a while, since the deadline for the previous resolution had passed. Such resolutions are needed to keep the federal establishment running in the absence of action on the regular appropriations bills, most of which are still before Congress two months into the current fiscal year.

The \$428 billion stopgap appropriations resolution called for spending at a level at least \$2 billion higher than President Reagan had requested.

Referring to his September request for Congress to decrease appropriations by an additional \$13 billion, President Reagan said he had agreed to meet Congress half-way, but that the final resolution was not a fair compromise or sound budget policy.

Such "budget-busting" bills cause "sustained hardship" to taxpayers, the President charged. He criticized the lawmakers for the practice in the last two years of funding federal agencies through continuing resolutions rather than timely action on regular appropriations bills.

Over a frantic weekend, the House, 205 to 194, and the Senate, 46 to 39, approved the massive continuing spending bill despite warnings from the White House that it faced a veto. The margins of support made clear there were not enough votes in either chamber to override the veto, an action requiring a two-thirds vote.

Jolted by the President's veto, the Congress then quickly adopted a "mini" continuing resolution to keep the government running until mid-December, putting off until after the Thanksgiving recess the problem of wrestling with a longer reso-

lution or perhaps attempting to speed action on the regular appropriations bills.

Many of the appropriations measures, which include funds for the Health and Human Services (HHS) Department, are still before Congress. And many of these carry more money than the Administration wants.

The battle between the Administration and Congress on appropriations promises to continue to dominate the scene on Capitol Hill until year's end.

* * * *

The Supreme Court this term is slated to fix important boundaries on the application of the federal antitrust laws to medicine.

Four cases have been accepted for review so far. The latest involve a Blue Shield plan's exclusion of payments for psychologists and the practice of peer review by physicians committees of insurance reimbursement claims.

Previously, the Supreme Court had agreed to rule on the American Medical Association's challenge to the Federal Trade Commission's action against ethical advertising codes and the question of maximum fee schedules for medical foundations.

The decisions on these cases are not expected until this Spring.

The Blue Shield case involved two Virginia plans that excluded payment for clinical psychologists. The Fourth U. S. Circuit Court of Appeals upheld the suit against the plans charging a violation of antitrust laws.

If the high court's ruling is broad enough, it could have an impact on the question of whether health insurance can limit mental health benefits to treatment by psychiatrists or those acting under psychiatrists' directions.

The high court will also consider a case by a New York chiropractor who argued that the peer review process by insurance companies operated to set an upper limit on fees, a practice he charged is price-fixing and thus a restraint of trade.

* * * *

The government is appealing a court order for

an open season for the private health insurance plans for U. S. workers, claiming an open season could jeopardize the Blue Cross-Blue Shield plan that covers about half the federal work force.

U. S. District Court Judge Aubrey Robinson, acting on appeals from employe unions, ordered a two-week open season to allow the 9.2 million people covered under the Federal Employe Health Benefit program (FEHT) to choose other plans. The Office of Personnel Management (OPM) opposed the open season, apparently fearing adverse selection could work against the Blues.

OPM Director Donald Devine said an open season "threatens the integrity and perhaps even the survival" of the government's program.

He said the Blues might have to pull out of the program. Earlier, Blues' officials contended their plans might dip into the red unless they are allowed to trim mental health benefits, presently among the most liberal in the nation.

Psychiatric groups led by the American Psychiatric Association asked the District Court to prohibit the proposed cutbacks in benefits, labelling the move "second rate public policy which if allowed would make second class citizens out of thousands of seriously mentally ill persons."

The reduction in benefits for the Blues would involve limiting in-patient hospital stays to 60 days and outpatient psychiatric visits to 50 a year. The patients would be asked to pay half the outpatient costs instead of the present 30 percent.

Devine had ordered the 126 health plans that participate in the federal employee program to reduce benefits by 12.5 percent while the premium costs would rise nine percent in order to keep the plans on a sound financial footing. The government pays 60 percent of the premium.

There have been resolutions introduced in Congress to continue the present benefit structure until Congress has a chance to study the situation, but there has been no final action so far.

* * * *

Support is picking up in Congress for legislation to expand Medicaid and Medicare coverage for home health services.

The measure's sponsor, Sen. Orrin Hatch (R-UT), Chairman of the Senate Labor and Human Resources Committee, is driving for Congressional passage by year's end.

The legislation (S. 234) encourages establishment of home health programs and provides tax

breaks for families who care for their elderly at home.

At the Committee's final hearing on the bill before marking it up for Committee action, Hatch won support from Chairman Claude Pepper (D-FL) of the House Aging Committee who said he would introduce a companion measure in the House. A number of Senators are co-sponsors of Hatch's bill.

The Senator said more than 25 million Americans are over 65 and that three-fourths of them may be forced to enter nursing homes instead of staying with their families. The Congressional Budget Office said some 1.7 million to 2.7 million people could be in need of expanded home service, but that less than 500,000 people receive it. Less than two percent of Medicare outlays — \$750 million — go for home health care.

Actress Helen Hayes told the Committee that "it's such a pity when something as simple as not being able to get out of bed in the morning can cause you to go to a nursing home."

* * * *

The long ordeal of C. Everett Koop, M.D., is over. The Senate has confirmed his nomination to be Surgeon General by a vote of 68-24, ending a seven-month controversy centering around Dr. Koop's outspoken views against abortion.

The nomination was stalled because it was necessary to grant a congressional waiver to allow Dr. Koop to take the post because of age and Public Health Service experience requirements in law. This allowed opponents, led by Chairman Henry Waxman (D-CA) of the House Commerce Subcommittee on Health, to block Senate waivers.

The issue was always abortion, however. Sen. Orrin Hatch (R-UT), Chairman of the Senate Labor and Human Resources Committee, told the Senate that abortion is a matter of great public debate "and I can conceive of no reason why advocacy . . . should affect Dr. Koop's fitness to be surgeon general."

Said Hatch:

"Dr. Koop is a distinguished physician who is eminently qualified to hold this position. Not only is he a renowned surgeon and administrator but throughout his career has engaged in an incredibly numerous and varied set of public health activities."

Dr. Koop, 65, was surgeon in chief at Children's Hospital in Philadelphia when he was nominated.

During the congressional debate over the nomination, he had been serving in his twin capacity as Deputy Assistant Secretary for Health at the Health and Human Services (HHS) Department.

Hatch said that one objection to Dr. Koop had been that he should not be permitted to oversee or control certain PHS programs. Actually, Dr. Koop must report directly to Edward Brandt, M.D., Assistant Secretary for Health, Hatch noted.

The Senate fight against the nomination was led by Sen. Edward Kennedy (D-MA), who criticized what he called "the essentially total absence of training or experience in public health." The Senator also accused Dr. Koop of being "out of touch with the role of women in our society."

Sen. John Heinz (R-PA) said Dr. Koop's "personal views on these matters will in no way interfere with the manner in which he carries out the duties of the office of Surgeon General."

* * * *

CONSTITUTIONAL AMENDMENTS APPROVED ON FIRST READING IN APRIL 1981

The following proposed changes in the Society Constitution and Bylaws were approved by the House of Delegates on first reading in April 1981. If approved by the House of Delegates at the 1982 meeting, the changes become effective at that time.

CONSTITUTION. Article VI. Council Section 3. Executive Committee

The chairman of the Council, the president, the president-elect, the secretary, and *the immediate past president* shall constitute the Executive Committee of the Council. The Chairman of the Council shall serve as chairman of the Executive Committee. The Executive Committee shall have such powers and duties as provided in the Bylaws and as may be defined from time to time by resolution of the Council.

(Note. The words in *italics* are additions to this section.)

BYLAWS. Chapter V. Election of Officers Section 1. Nominating Committee

(A) Prior to adjournment of the first meeting of the House of Delegates at each Annual Session, the delegates from the component societies of each councilor district shall meet, the councilor not subject to re-election acting as chairman, and select one delegate from each district to form a

committee on nominations. This committee shall consist of ten delegates, one from each councilor district. It shall meet and organize by selecting a chairman and a secretary. It shall be the duty of this committee to consult with members of the Society and to hold one or more meetings at which time the best interest of the Society and of the profession of the State for the ensuing year shall be carefully considered. The committee shall report the result of its deliberations to the (delete. House of Delegates) *headquarters office no later than February 1* in the shape of a ticket containing the names of two or more members for the office of president-elect and of one member for each of the other offices to be filled at (delete "that") *the* Annual Session. No two candidates for president-elect shall be named from the same county.

Delete. (B) The report of the Nominating Committee shall be the first order of business of the House of Delegates, after reading of the minutes, on the last day of the Annual Session.

CHAPTER V. Section 5. (Election of Officers)

The election of officers shall be the (delete: "second") *first* order of business of the House of Delegates on the last day of the Annual Session.

(Note: Words in *italics* are additions to the present section.)



ANSWER—Electrocardiogram of the Month

DISCUSSION: The trace shows a sinus rhythm, rate 63/minute. Left axis deviation, high voltage (22 mm in AVL), intrinsicoid deflection delay in V₅-V₆ (0.05 sec.), increased QRS duration (0.10 sec.), and ST-T changes are all present yielding on Estes' score of 10 of 13 possible points for left ventricular hypertrophy. The QRS duration is not increased sufficiently for LBBB. The QT interval is 0.48 sec. with 0.39 sec. being the upper limit of normal for the sex and heart rate of the patient. This is compatible with but not diagnostic of electrolyte imbalance or drug effects. QS complexes are present from V₁ through V₃ associated with up to 3 mm ST segment elevation in V₁-V₃ but typical reciprocal changes are absent. These changes would be compatible with past infarction and ventricular aneurysm but clinical correlation would still be needed. Thus, choices A, C, E and F are all suggested by the ECG.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

PRACTICAL MANAGEMENT OF RHEUMATIC DISORDERS

Presented by E. A. Lipsmeyer, M.D., *March 4-6*, Arlington Hotel, Hot Springs. Seven hours Category I credit. Registration fee \$75. Sponsored by UAMS.

SPRING SYMPOSIUM OF OB-GYN

Presented by Timothy Miller, M.D., *March 13*, 8:00 a.m. to 4:00 p.m., Education II Building, UAMS. Five and one-half hours Category I credit. Registration fee \$50.

INDICATIONS FOR PACEMAKER THERAPY

Presented by Michael D. Falkoff, M.D., Staff Cardiologist, Genesee Hospital and University of Rochester School of Medicine, New York, *March 16*, 7:00 p.m., In-Service Education Building, Baxtex General Hospital, Mountain Home. Two hours Category I credit. No fee.

PERINATOLOGY SEMINAR

Presented by Dr. Susan Denson and Jimmie Cash, R.N., *March 19*, 8:45 a.m. to 4:15 p.m., Holiday Inn, Fayetteville. Six hours Category I credit. Sponsored by UAMS AHEC-NW.

SEGMENTAL SPINAL INSTRUMENTATION

Presented by Raymond Morrissy, M.D., *March 19-20*, Education II Building, UAMS. Nine hours Category I credit. Registration fee \$375.

PATHOLOGY OF BONES AND JOINTS: A SEMINAR FOR ALL ORTHOPEDISTS AND PATHOLOGISTS

Presented by Aubrey Hough, Jr., M.D., Chairman, Department of Pathology, UAMS, *March 27*, 8:30 a.m. to 4:00 p.m., Room E-155, Education Wing, St. Vincent Infirmary. Five hours Category I credit. Registration fee \$30 (includes course booklet, set of kodachrome slides and lunch).

OB-GYN UPDATE FOR FAMILY PHYSICIANS

Presented by Ben Saltzman, M.D., *March 27*, 8:00 a.m. to 5:00 p.m., Education II Building, UAMS. Seven hours Category I credit. Registration fee \$40.

ANESTHESIA SEMINAR

Presented by Richard Clark, M.D., *April 16-18*, Heber Springs. Sponsored by UAMS.

ARKANSAS MEDICAL SOCIETY MEETING

April 29 - May 2, Arlington Hotel, Hot Springs. Hour-for-hour Category I credit.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC

Surgery Conference, each Monday, 12:30 p.m. to 1:30 p.m., alternate months at Union Medical Center and Warner Brown Hospital.

Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC Conference Room, 490 West Faulkner, El Dorado.

Internal Medicine Conference, each Wednesday except last Wednesday, 12:30 p.m. to 1:30 p.m., alternate months at Union Medical Center and Warner Brown Hospital.

Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

Neurology Conference, last Wednesday, 12:30 p.m. to 1:30 p.m., alternate months at Union Medical Center and Warner Brown Hospital.

Obstetrics-Gynecology Conference, each Thursday, 12:30 p.m. to 1:30 p.m., alternate months at Union Medical Center and Warner Brown Hospital.

Pediatrics, second and fourth Friday, 12:30 p.m. to 1:30 p.m., alternate months, Union Medical Center and Warner Brown Hospital.

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, March 4, 18 and April 1, 15, 1:00 p.m., Conference Room.

Pathology Conference, March 16 and April 20, 3:00 p.m., Conference Room.

Mortality Conference, March 11 and April 8, 3:00 p.m., Conference Room.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

JONESBORO — AHEC-NORTHEAST

Interesting Case Conference, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Monthly Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.
Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.
Continuing Medical Lecture Series, each Friday, 12:00 noon, St. Bernard's Dietary Conference Room.
Chest Conference, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Pediatric Radiology/Genetics Conference, each Monday, 12:00 noon, Main Conference Room.
Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Physicians' Conference Room.
Infectious Disease Conference, second Wednesday, 12:00 noon, Physicians' Conference Room.
Problem Case Conference, each Thursday, 12:00 noon, Physicians' Conference Room.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, March 10 and April 14, 7:00 p.m. to 1:00 a.m., Auditorium, Baptist Medical Center. Six hours Category I credit.
GI Roundup, March 10, 24 and April 14, 28, 12:00 noon to 1:00 p.m., Conference Room #1.
Pulmonary Care Conference, each Tuesday, 12:00 noon to 1:00 p.m., Conference Room #1.
Emergency Medicine Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.
Morbidity and Mortality Conference, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.
Surgery Conference, each Thursday, except first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.
Anesthesiology Conference, third Friday, 7:00 a.m. to 8:00 a.m., Dining Room #3.
Case of the Month, March 18 and April 22, 12:00 noon to 1:00 p.m., Conference Room #1.
Central Arkansas Primary Care Conference, second Tuesday, 7:00 p.m. to 9:00 p.m., BMC Auditorium.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 p.m. to 1:15 p.m., Coffee Shoppe Dining Room #3.
Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E155, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.
Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S-1169, Laboratory.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.
Cardiology Conference, second and fourth Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Internal Medicine Grand Rounds, each Thursday, 8:00 a.m. to 9:00 a.m., Auditorium, Shorey Building, UAMS.



THINGS TO COME

March 25-26

Arkansas Chapter American College of Surgeons. *Masauki Hara Lecture* March 25th at University Medical Center, Little Rock. *Spring meeting* March 26th and 27th, Arlington Hotel, Hot Springs. Guest speaker will be Dr. Robert Zeppa, Professor and Chairman, Department of Surgery, University of Miami School of Medicine, Florida. For further information, contact Dr. Charles Logan, 500 South University, Little Rock 72205;

phone 664-4364.

April 16-18

The General Practice of Anesthesiology. The Arkansas Society of Anesthesiologists and the Department of Anesthesiology, University of Arkansas College of Medicine. Red Apple Inn, Heber Springs. For further information, contact Dr. Ed Coffman, 3200 South Dallas, Fort Smith 72901.

April 29 - May 2

Preventive Medicine for the 80's. 106th Annual Session, Arkansas Medical Society, Arlington Hotel, Hot Springs. Hour-for-Hour Category I credit, AMA Physician's Recognition Award. For further information, contact Leah Richmond at the headquarters office, Post Office Box 1208, Fort Smith, Arkansas 72902; toll free number in Arkansas 1-800-542-1058.

May 27-29

The Multiple Injured Adult with Complex Fractures. Division of Orthopaedic Surgery, Southwestern Medical School, The University of Texas Health Science Center at Dallas. Twenty hours Category I, Physician's Recognition Award. For further information, contact June B. Bovill, Division of Continuing Education, The University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235; telephone 214-688-2166.

June 10-12

Annual Meeting, Arkansas Chapter, American College of Surgeons. Red Apple Inn, Heber

Springs. For further information, contact Dr. Charles Logan, 500 South University, Little Rock 72205.

August 26-28

Seventh Annual Urologic Oncology Seminar. The University of Texas System Cancer Center; M. D. Anderson Hospital and Tumor Institute. Shamrock Hilton Hotel, Houston. Twenty-two hours Category I, AMA. Fee: \$200. For further information, contact Douglas E. Johnson, M.D., Head, Department of Urology and Professor of Urology, M. D. Anderson Hospital, 6723 Bertner, Houston, Texas 77030.



PERSONAL AND NEWS ITEMS

DR. McCRARY SPEAKS

Dr. Robert McCrary, Jr., of Hot Springs spoke at the annual Thanksgiving Workshop of the Henderson Student Nurse Association.

DRS. OSBORNE AND HART ARE SPEAKERS

Dr. Merrill Osborne and Dr. Sybil Hart, both of Blytheville, were speakers at a recent Chickasawba Hospital seminar on Decubitus Ulcer.

DR. PUPSTA HONORED

Dr. Ben Pupsta of Clarendon was recently honored during a Medical Professionals Reception sponsored by the Clarendon Chamber of Commerce.

DR. SHRINER RECEIVES AWARD

Dr. Walter Shriner of Hot Springs Village received the Silver Award of the American College of Gastroenterology for twenty-five years of Fellowship with the College. Dr. Shriner was one of six to receive the award during the recent annual meeting of the College.

DR. BOZEMAN ELECTED

Dr. J. G. Bozeman of Salem is president of the Tri-County Medical Society for 1982. Other officers elected are: Dr. Lewis G. Allen of Hardy as secretary, Dr. M. N. Moody of Salem as delegate to the Arkansas Medical Society with Dr. Allen serving as alternate, and Drs. A. M. Grasse of Calico Rock, M. P. Meisenheimer of Cherokee Village and C. B. Arnold of Salem as trustees.

DR. HAYDEN SPEAKS

Dr. Virgil L. Hayden spoke on the importance of breast self-examination at a recent meeting of the Pine Bluff Chapter of the American Business Women's Association.

JACKSONVILLE PEDIATRICIAN

Dr. Paulette S. Johnson, formerly a member of the Little Rock Air Force Base medical staff, has opened an office in Jacksonville for the practice of Pediatrics.

DR. RUSHTON

Dr. Joe Rushton of Magnolia this year marks his 50th anniversary of practicing medicine. Dr. Rushton is a life member of the Society and serves on the Board of the Medical Education Foundation for Arkansas.

DR. SALTZMAN SPEAKS

Dr. Ben N. Saltzman of Little Rock gave a slide presentation on the Health Department's facilities at a recent meeting of the Bull Shoals-Lakeview Rotary Club.

DR. GATES MOVES

Dr. L. T. Gates, formerly of North Little Rock, has opened an office in Brinkley for the practice of Family Medicine.

DR. KALER SPEAKS

Dr. Ron Kaler of Hot Springs spoke on first aid for gunshot wounds at a recent hunting semi-

nar sponsored by the Education Department at St. Joseph Regional Health Center.

DR. MORRIS HONORED

Dr. W. Dale Morris of Little Rock was honored by the March of Dimes for work during the 1981 campaign.

COTTON PLANT GAINS PHYSICIAN

Dr. Keith Mays has established an office for the General Practice of Medicine at the Cotton Plant Medical Clinic.

DR. BARROW ELECTED

Dr. John Barrow of Helena was elected as the

1982 Chief of Staff and Dr. P. Vasudevan of Helena was elected 1982 Chief of Staff-Elect at Helena Hospital. Dr. Robert D. Miller was chief of staff for the previous year.

HEALTH DIRECTOR SPEAKS

Dr. Ben N. Saltzman, Director of the Department of Health, spoke to employees of Area 9 of the Health Department during a recent meeting in Forrest City. Dr. Saltzman recognized employees in their maintenance of service to area people while receiving fewer State and Federal funds.



**NEW
MEMBERS**

DR. BRYANT W. JONES

Dr. Jones is a new member of the Greene-Clay County Medical Society. He was born in Tupelo.

Dr. Jones was graduated from the University of Arkansas at Fayetteville and, in 1953, from the University of Arkansas College of Medicine. His internship and residency were with the University Hospital. Dr. Jones also served as instructor at the University Hospital.

From 1958 to 1962, Dr. Jones practiced in Little Rock and from 1962 to 1981, he practiced in Lakeland, Florida. He has served with the United States Air Force.

Dr. Jones specializes in Urology and is board certified. He now practices at One Medical Drive in Paragould.

* * * *

The Union County Medical Society has two new members:

DR. PATRICIA A. MAUD

Dr. Maud, a native of Norristown, Pennsylvania, was graduated from the Pennsylvania State University in 1974 with a B.S. degree. She was graduated from the University of Pennsylvania

School of Medicine in Philadelphia in 1978.

Dr. Maud had her internship and Family Practice residency with the Washington Hospital in Washington, Pennsylvania. She is board certified in Family Practice.

Dr. Maud, who specializes in Family Medicine, has her office with the Cabun Rural Health Services in Hampton.

DR. DONNA J. ZAHNISER

Dr. Zahniser was born in Bradford, Pennsylvania. She is a graduate of the Southern Arkansas University at Magnolia and the University of Arkansas College of Medicine.

Dr. Zahniser served an internship, residency and a fellowship with the Los Angeles County-University of Southern California Medical Center from 1975 to 1980.

Dr. Zahniser specializes in Internal Medicine and Oncology. Her office is located at 425 Thompson in El Dorado. She also serves as Clinical Instructor at the AHEC Center in El Dorado.

* * * *

INTERN AND RESIDENT MEMBERS

DR. JAMES DUKE

Dr. Duke has been accepted by the Pulaski County Medical Society as an Intern member. He is a 1981 graduate of the University of Arkansas College of Medicine and is now serving a Flexible internship there.

DR. RONALD K. NEWMAN

Dr. Newman is a Resident member of the Pulaski County Medical Society. He is a 1978 graduate of the University of Texas Medical School in San Antonio. Dr. Newman is an Otolaryngologist resident at the University Hospital.

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ARLINGTON HOTEL, HOT SPRINGS, ARKANSAS, APRIL 29 - MAY 2, 1982

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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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COLONOSCOPY: Indications, Contraindications, Normal, Abnormal

J. M. Tune, M.D.*

Use of flexible fiberoptics to inspect the colon began in the early 1960's. Initially, problems related to the colon's anatomy and to its noxious contents made careful and detailed evaluation difficult. Over the last five to ten years improvements in instrument design and techniques now permit complete examination of every aspect of the colon. The anatomy of the colon, which averages 6 feet in length, demands utilization of the most sophisticated instruments and techniques for intubation and thorough examination.¹ Effectiveness of fiberoptic colonoscopy in the diagnosis and treatment of colonic abnormalities have become so widely acclaimed that the procedure is available in virtually every large community, and in many of the smaller communities, in Arkansas. This paper will review some of the techniques in colonoscopy as well as discuss the indications, contraindications, normal and abnormal findings.

TECHNIQUES

Most of the current instruments used for fiberoptic colonoscopy today are manufactured by the Olympus Company or ACMI. At the University Hospital, the instrument used is the Olympus LB3 colonoscope, which is 186cm in length with a 13mm diameter and a four-way reflection mechanism. After the procedure and complications are explained, the patient is then given a pre-operative injection of demerol, vistaril, and robidol approximately 30 minutes before being taken into the endoscopy suite. Once the patient arrives, anywhere from 5-25mg of Valium is given intravenously to achieve an adequate degree of sedation. The subject is then turned to the left lateral decubitus position and the colonoscopist does a rectal examination to assure no obstruction to passage of the instrument. The scope is then

introduced carefully into the anal canal while the patient is valsalving to facilitate relaxation of the external anal sphincter. The colonoscope is then carefully maneuvered around the tortuous turns of the sigmoid colon and flexures until the cecal area is reached. To help enlarge the lumen and flatten out the colonic folds, the scope is attached to an air supply, which can be administered through the scope during the procedure. With the older colonoscopes, x-ray fluoroscopy was needed to help guide the endoscopist around the colon, however, with the new, longer, more maneuverable instruments, this is usually unnecessary. Full examination of the colon from rectum to cecum can be accomplished in 95% or more patients. The rate of insertion to the terminal ileum is said to be about 66%, but most experienced endoscopists can now reach the ileum in almost every case if there is indication to do so.

If one encounters a colonic polyp, then polypectomy with a wire snare and electrocoagulation can be done. The wire snare inside a long polyethylene catheter is threaded through the suction channel of the scope; the snare is then maneuvered over the head of the polyp and down onto the stalk where it is snugly embedded. The physician then applies coagulating current from an external power source through the wire while the assistant maneuvers a lever which cuts through the polyp stalk. The patient is, of course, grounded during the procedure so as to prevent any electrical shock. The polyp is then removed by sucking it up against the head of the colonoscope or by use of a "polyp-grabber." The entire polyp can then be sent down to the Pathology Department for histological inspection. The colonoscopist then re-inserts the scope and examines the area of electrocoagulation to make sure that hemostasis has been obtained. If polyps are too small to be snared with the wire snare, they can

*Fellow, Gastroenterology, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72201.

be removed with the hot biopsy forceps and coagulator.

INDICATIONS

Indications for colonoscopy can be lumped under two broad categories: 1) diagnostic colonoscopy; and 2) therapeutic colonoscopy. Most of the time colonoscopy is done for diagnostic needs. A list of the indications for diagnostic colonoscopy is as follows:²

1. Abnormal barium enema
2. Abnormal sigmoidoscopy
3. Unexplained colonic symptoms
4. Lower GI bleed
5. Evaluation of post-operative colon
6. Assessment of inflammatory bowel disease

If one has a definitely abnormal barium enema such as a mass lesion, stricture or polyp, then colonoscopy can give a definitive diagnosis. If a polyp or carcinoma is seen on routine sigmoidoscopic examination, then the patient should undergo full colonoscopy. If a polyp is seen by sigmoidoscopy, then the chances of having another polyp somewhere else in the colon are very high. Of course, during the procedure electrocautery and polypectomy can be carried out. Also, even though an individual may have a clear-cut carcinoma on sigmoidoscopy or barium enema, full colonoscopy should be done because of a 4-6% incidence of a synchronous or another malignancy somewhere else in the colon.³ Perhaps the primary indication for colonoscopy should be any colonic symptom or sign that is unexplained by conventional x-rays and which needs further clarification. The prime example is perhaps the patient who presents with rectal bleeding or anemia and a positive hemoccult in the stool but a negative barium enema and proctoscopic exam. In one study of 258 patients who presented either with rectal bleeding or anemia and positive hemoccult but normal barium enema, or showing only diverticula, the incidence of finding a significant lesion by colonoscopy was 41.5%, with 29 or 11.2% of these patients having a carcinoma.⁴ This study was accomplished with single contrast barium studies, but there has been some evidence to show that double contrast or air-contrast studies also may frequently be misleading. In one study comparing air-contrast barium enema and colonoscopy, it was found that one-third to one-half of significant polyps, greater than 5 mm in size, may be missed by air-contrast

barium enema. Additionally, a radiography false-positive rate of 20-30% may exist for polypoid defects — usually feces. In this study about one-third of colon cancers went undetected by double contrast studies.⁵ In other studies, however, evaluating the sensitivity rate for air-contrast barium enema, the yield for polypoid lesions is better.⁶ Regardless, it is clear that if an individual presents to the physician with rectal bleeding or anemia and hemoccult positive stools, then full colonoscopy should be undertaken even if air-contrast barium enema and sigmoidoscopy are unrevealing.

The determination of the extent, activity and even diagnosing inflammatory bowel disease is another indication for colonoscopy. If the barium enema is somewhat equivocal in determining the extent of the disease, then colonoscopy can add good information. Also, colonoscopy can be used to differentiate between ulcerative colitis and Crohn's disease which is sometimes difficult to do on barium enema alone.⁷ Once treatment has been initiated, the best way to determine response to therapy is re-examining the mucosa with the colonoscope. Also, if the individual has had an inflammatory bowel disease, particularly ulcerative colitis for a long period of time, then periodic colonoscopic examination and biopsy can be used for malignancy screening.

As mentioned before, the importance of pre-operative colonoscopy for rectal or colonic carcinoma is to rule out synchronous lesions. It follows that post-operative colonoscopy is also important because there is a 2-3% range for metachronous lesion over a ten year follow-up period.³ Once an individual has been operated on for cancer, then repeat colonoscopy at about four to six months and every two to three years is desired to rule out any re-appearance of colonic neoplasms.

THERAPEUTIC COLONOSCOPY

Under this heading we must consider polypectomy and extraction of foreign bodies. Polypectomy, as talked about earlier, can be easily done with the wire snare and electrocautery unit. Again, multiple polyps may be found in one's colon, so full colonoscopy should be done and all polyps removed. If all polyps cannot be removed in one setting, then multiple examinations may be needed. After the colon has been completely "cleared," then repeat colonoscopy can be done

every two to three years to rule out any further formation of polyps. Extraction of foreign bodies can sometimes be very difficult. Children, as well as adults, frequently put numerous agents in their rectum and if not extremely large can be removed with the colonoscope utilizing the biopsy forceps, polypectomy snare, or other devices specifically designed for foreign object removal.

A final therapeutic use of colonoscopy may be endoscopic decompression of a post-operative colonic ileus in which the cecal and ascending colon diameter have reached a dangerous diameter. Some people advocate the use of inserting the colonoscope into this area and sucking out the air with hopeful collapse of the colonic wall. However, this technique has not been proven to be safe and caution should be used. Also some reports of therapeutic reversal of a sigmoid volvulus with the colonoscope have been reported.⁷

CONTRA-INDICATIONS

Contra-indications to colonoscopy are few, but their importance cannot be understated. Any acute, inflammatory process such as severe inflammatory bowel disease or severe ischemic bowel disease should be approached with caution.⁸ Vigorous colonoscopic examination in an acutely inflamed colon can very easily lead to perforation or perhaps precipitation of toxic megacolon. Also, an acutely bleeding patient should not be colonoscoped because blood will cover the lens and visualization may be impossible. Megacolon, itself, is an obvious contra-indication because the mucosa is usually very thin and the risk of perforation is great. Other contra-indications include suspected perforation, acute diverticulitis, and peritonitis. Also, extreme caution should be exercised in a post-operative abdominal surgery, post-radiated pelvis due to the possibility of pelvic fixation, pregnancy, and, perhaps the most important, an untrained endoscopist.¹

COMPLICATIONS

Diagnostic colonoscopy has a complication rate between .34% and .42% with a mortality rate of 0.2%. The statistics for colonoscopy and polypectomy are between 1% and 2.32% and a 0.01% mortality. Complications include perforation, bleeding, intracolonic explosion, transmission of infection, cardiac arrhythmias, drug reactions, drug overdose, splenic tears, and bacteremia. Perforation of the colon complicates colonoscopy in .2%, and is more likely to occur with polypecto-

my.⁷ Perforation of the colon usually results from too high insufflation of air or in colonoscopic examination and biopsy of an acute inflamed colon. Perforation may be silent and pursue a benign course, or may require surgical intervention. Perforation of the rectum below the peritoneal reflection can present a rectal-peritoneal emphysema. The incidence of hemorrhage following polypectomy is .2%.⁷ Hypertension and coagulopathy accounts for some of these problems. Explosion of the colon is a potential risk because of the methane-producing bacteria in the colon. However, if the patient has been well prepped and CO₂ is used for insufflation during polypectomy, this complication rate is extremely unusual. Bacteremia has been found in 0-27% of people undergoing colonoscopy examination. The recommendations as to using antibiotic prophylaxis in people with cardiac valve disease has not been well determined. Perhaps the only real need would be in individuals who have prosthetic cardiac valves.⁹

NORMAL COLONOSCOPY

Examination of a normal, well-prepped colon in the hands of a trained, experienced endoscopist can be a very simple task. Most of the time, the examination takes between 15 and 45 minutes depending upon the tortuosity of the colon, excellence of the prep, and cooperation of the patient. With polypectomy, the exam may take slightly longer. Once inside the rectal vault, the endoscopist is able to maneuver and even retroflex allowing a good examination of the rectum. The scope, then, can be carefully manipulated into the tortuous sigmoid colon and into the long tubular descending colon. Once this is accomplished, the endoscopist approaches the splenic flexure which is recognized as an outpouching. Sometimes the bluish hue of the spleen on the mucosal surface may be seen. Once inside the splenic flexure, the endoscopist then turns the colonoscope 90° to the left popping into the triangular-appearing lumen of the transverse colon. The scope can then easily be maneuvered across the transverse colon until one encounters the second flexure, the hepatic flexure. It also is recognized as an outpouching and the bluish hue of the liver on the mucosa may be noted. The scope is then directed downwards and the very large lumen of the ascending colon is encountered. Maneuvering of the scope down the ascending colon into the cecum can sometimes be difficult

and several maneuvers such as turning the patient, pressure on the sigmoid colon externally, or use of suction may be necessary to cannulate the cecum. Usually the ileocecal valve can be seen on the medial aspect of the cecal wall and this can be cannulated if necessary. The scope is then slowly withdrawn as the colonoscopist does a detailed examination of the colonic lumen and mucosa. Once this has been done, and the scope is brought back into the rectum, it can be withdrawn and the patient returned to the ward.

ABNORMAL COLONOSCOPY

Examination of the abnormal colon can be somewhat more difficult and more time consuming. When the colonoscopist advances the scope through a tortuous, redundant, spastic sigmoid, this can be very painful for the endoscopist as well as the patient. If a tumorous lesion is seen, then biopsies of this area need to be taken and, if possible, the scope needs to be maneuvered around the tumor so the remainder of the colon can be examined. Polyps are frequently encountered and, if so, removal with the electrocautery snare needs to be done. Inflammatory bowel disease may frequently present with massive edema, friability and sometimes a strictured lumen which will compromise the colonoscopic examination. Diverticular disease with large-mouthed diverticulum can sometimes give the illusion of a false lumen and misdirect the examination. Other abnormalities which may frequently be seen are cecal angiodysplasia from which occult GI bleeding may occur, melanos coli due to laxative abuse, and rectal disease including internal/external hemorrhoids, fissures and fistulas.¹

COSTS

A complete colonoscopic examination is a relatively expensive procedure. Total colonoscopy, including the technical and professional fees, at the University Hospital comes to a total of \$385.00. If polypectomy is included, the total is then brought to \$418.00. This must be compared to the cost of a column barium enema which runs about \$74.80 and an air-contrast barium enema of \$114.30. For this reason, the use of barium enema prior to colonoscopic examination is still advocated. The cost effectiveness as well as the need for replacement of barium enema by colonoscopy as of yet has not been demonstrated.

CONCLUSIONS

Colonoscopy is a valuable, widely available technique, which can be done with ease by a trained individual. The indications are many and the contra-indications are few. Complication rates, even though significant, are extremely low. A normal colonoscopic examination can be done in a short period of time with few complications. However, if an abnormal exam is being done, the time consumed is greater and the complication rate rises. However, with trained endoscopists, the effectiveness of colonoscopy far outweighs any complications. Most endoscopists desire to have a barium enema done prior to their examination because the x-ray provides a good road map as well as helps delineate blind areas such as proximal to the hepatic and splenic flexures. The cost of the barium enema is much lower than that of colonoscopy, but the sensitivity of the endoscopic examination is much better. Some advocate replacement of barium enema by colonoscopic examination, but good studies to show the cost effectiveness or the necessity of this have not been done.

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Spectrum of Reflux Esophagitis

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Esophageal reflux is the regurgitation of gastroduodenal contents into the esophagus.¹ This occurs in everyone from time to time, often without eliciting symptomatology. When symptoms ensue, the patient usually seeks medical attention and can be treated with routine measures adequately. The history is often atypical and when the presentation is not typical and/or at the suggestion of complicating factors, we as physicians must evaluate the patient for esophageal reflux. The spectrum from simple reflux to the complications of mucosal injury, erosive changes, development of Barrett's epithelium and stricture formation with its incumbent risk of bleeding, perforation, neoplastic transformation and pulmonary aspiration, all warrant medical intervention. This review is concerned mainly with a systematic and practical approach to the diagnosis and management of reflux esophagitis.

ETIOLOGY AND PATHOGENESIS

Most patients (84%) experience symptoms of reflux for more than a year before the diagnosis of reflux esophagitis is made.² Several factors are involved in the development of reflux esophagitis. Some of the important ones are the following:

TABLE 1.

ETIOLOGY AND PATHOGENESIS

1. Lower esophageal sphincter
2. Nature of the refluxed material
3. Esophageal emptying
4. Mucosal resistance

Lower Esophageal Sphincter (LES)

In general, a third of the patients with endoscopically documented esophagitis will have normal LES pressures. Another third may have normal to low LES pressures and only one-third will have low LES pressures. The last group (with low LES pressure) invariably have severe reflux, whereas in the first group of subjects, the frequency of demonstrable reflux is less severe as demonstrated by Miller, *et al.*³ Also interesting is when the LES is absent (resected for various

reasons) or destroyed as in myotomy or due to some systemic illness such as scleroderma, there is a very high frequency of reflux leading to severe esophagitis. Conversely, when the LES pressure is manipulated to increase by a pharmacologic agent such as bethanechol (Urecholine), the frequency of reflux episodes can be abolished or diminished. Hence, the LES does seem to provide an effective barrier to reflux. However, normal LES does not prevent development of esophagitis. Therefore, other factors do play a role.⁴ The LES pressure is not a fixed, static pressure, thus varying according to mechanical stress, hormonal effects, pharmacologic influences, as well as probably emotional factors.⁵⁻⁷ Other known agents affecting the LES pressure are noted in Table 2. In esophagitis, the LES response to various stimuli may be decreased and may revert to normal after the esophagitis heals.

There is a high degree of association of hiatal hernia in patients with esophagitis, but there is no good correlation between the presence of hiatal hernia, gastroesophageal reflux and esophagitis. The presence or absence of hiatal hernia does not influence LES function or the demonstrable reflux. The incidence of hiatal hernia is controversial but usually reported to be from 30 to 70% of adults. In one study, radiographic demonstration of hiatal hernia was shown in

TABLE 2.

The Following are Some of the Known Factors
that Affect LES

RAISE LES PRESSURE	LOWER LES PRESSURE
<i>Gastrin</i>	<i>Alcohol</i>
<i>Motilin</i>	<i>Smoking</i>
<i>Prostaglandin F₂</i>	<i>Chocolate</i>
<i>Mecholyl</i>	<i>Fatty foods</i>
<i>Urecholine</i>	<i>Essence of peppermint</i>
<i>Metachopramide</i>	<i>Secretin</i>
<i>Alkali (?)</i>	<i>Cholecystokinin</i>
<i>Protein meal</i>	<i>Glucagon</i>
<i>Betazole</i>	<i>Isuprel</i>
<i>Coffee</i>	<i>Gastric acidification</i>
	<i>Anticholinergic agents</i>
	<i>Pregnancy</i>

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greater than 50% of patients studied over the age of 60.⁸ There has been considerable recent evidence to support the concept that the primary defect in patients with the symptoms with hiatal hernias is incompetence of the pressure barrier normally present at the esophogastric junction.^{8,9} It has also been shown that there is little relationship between the presence of hiatal hernia and an abnormally low pressure at the LES anti-reflux barrier. In fact, reflux symptoms in LES hypotension was just as common in those patients with radiographically demonstrated hiatal hernia as in those in whom a hiatal hernia could not be shown.¹⁰ Thus, primary incompetence of the LES appears to be a major factor in determining symptoms of gastroesophageal reflux.

Nature of the Reflux Material

The presence of acid alone in the esophagus is injurious. Addition of pepsin will cause more damage in a shorter period of time. The higher the acidity, the less time it takes to cause the damage.¹¹ Bile salts have also been shown to cause permeability changes in the esophageal mucosa.¹² Patients with esophagitis have been shown to have increased concentration of bile salts in the gastric contents compared to asymptomatic persons.¹³ This perhaps accounts for why some patients with reflux and regurgitation often comment that the fluid tastes bitter rather than sour and is yellow or green in color.

Esophageal Emptying

The following factors should be emphasized regarding patients with esophageal reflux:

- a. Once the material is refluxed into the esophagus, the patients with esophagitis seem to take more swallows to clear it out of the esophagus.
- b. Patients with esophagitis have more prolonged periods of acid in the esophagus, especially at night.
- c. There is good correlation between decreased acid clearing ability and prolonged nocturnal falls in the intra-esophageal pH.¹⁴ Thus, once gastric contents has bypassed the LES, secondary peristalsis will be stimulated and help remove the offending fluid. This clearance mechanism seems to be impaired in patients with esophageal reflux. They need more time and a greater number of swallows than control subjects to clear the esophagus of refluxed material. Spontaneous swallowing activity is reduced at night.¹⁵ Individuals with symptomatic reflux have more pro-

longed periods of acid in the esophagus, especially at night. The esophageal clearance has been shown to improve in patients treated with antacids, elevation of the head of the bed as well as metoclopramide.¹⁶ Improved acid clearing ability has also been documented with bethanechol.³ The effectiveness of bethanechol on symptoms and endoscopic evaluation was recently well documented in a double-blind study.¹⁷ These findings correspond well with our own series (G. K. Patel, *et al*, unpublished data).

Mucosal Resistance

There are other factors which, rather than refluxing from below, enter from above and may predispose to esophageal damage by acting synergistically with material refluxed. Mucosal resistance may be decreased when hot foods, alcohol and other foods are ingested. Alcohol does not increase esophageal mucosal permeability *in vitro*¹⁸ but does so in animal models¹⁹ as does aspirin. Hot foods and beverage may also produce mucosal damage.²⁰ These factors are the most difficult to study.

CLINICAL FEATURES

The symptoms of esophagitis are symptoms of reflux with a number of clinical manifestations as noted in Table 3. The most common clinical manifestation of reflux is heartburn. Heartburn tends to occur about one hour after meals. A response to antacids can be useful when trying to determine whether a symptom represents heartburn or not. Ingestion of antacids usually alleviates symptoms of heartburn within 3-5 minutes.

Individuals sometime seem to blend symptoms of heartburn and odynophagia. Painful swallowing or odynophagia, though, is usually seen only when severe reflux has been present for some time. This symptom responds less promptly to antacids than does heartburn.

There is an abundant bed of capillaries in the epithelial layer of the mucosa of the esophagus, thus accounting for bleeding, which is usually of a bright red or coffee ground nature. Bleeding may be the first clinical manifestation of reflux esophagitis, particularly in the elderly.

TABLE 3.
CLINICAL FEATURES

Heartburn	Regurgitation
Odynophagia	Dysphagia
Hemorrhage	Water brash
Asthma-Bronchitis	

A causal relationship for intermittent wheezing, hoarseness and "asthma" has been difficult to assess in the past, especially in the presence of concomitant cigarette smoking in most patients with reflux. However, if non-smoking children are examined, the incidence of reflux among those presenting with primary pulmonary problems is quite high.²¹ Adults in whom reflux is responsible for pulmonary symptoms will often complain of wheezing at night, early morning cough and uncomfortable sensation localized to the base of the neck and hoarseness of the voice, especially in the morning.²²

Regurgitation manifested by reflux of fluid into the mouth, usually at night, indicates rather severe reflux. It may be accompanied by pulmonary symptoms.

Dysphagia usually indicates mucosal damage caused by reflux, but does not always indicate stricture formation.

Water brash is usually an intermittent symptom often confused with heartburn, but referring to the filling of the mouth suddenly with a clear, slightly salty fluid which comes in extremely large quantities, often more marked with other symptoms of reflux present as well.

DIAGNOSIS

Radiography is not very sensitive to detect early changes and/or to demonstrate reflux, but is a good first line of study. Thus, the initial diagnostic approach to patients with reflux symptoms consists of an upper gastrointestinal tract roentgenographic series to exclude lesions that occasionally cause or mimic heartburn and to evaluate the anatomy of the gastro-esophageal region, as well as to detect complications such as esophageal ulcer or stricture. Usually, however, the upper gastrointestinal x-ray study does not permit assessment of the mucosa of the esophagus or competence of the lower esophageal sphincter. When radiographic evidence of reflux is observed, the patient usually has fairly marked symptomatology and reflux can be confirmed by other methods of study. On the other extreme, a positive test via the water siphon maneuver results in positive results in almost every patient if pursued aggressively. This is not a good test as the technique lacks a proper patho-physiologic basis.⁷ Radionuclide scintigraphy can be used to demonstrate reflux as well as to diagnose Barrett's esophagus by uptake in the columnar epithelium. In

the original description of the technique, 90% of the subjects with symptoms in pH probe proven reflux had reflux; whereas 10% of the control subjects showed uptake studies in patients with reflux esophagitis might show upward progression of the Barrett's epithelium, thus proving the cause and effect relationship. A prospective study at this institution is to be done in this regard to understand the natural history of Barrett's epithelium as well as to compare the usefulness using technetium pertechnetate scanning to diagnose and follow these patients. Thus, scintiscanning for reflux is quite sensitive and non-invasive, but cannot delineate whether or not the subject has esophagitis.

The most definitive way to diagnose esophagitis is by endoscopy when inflammation, ulceration and/or strictures are recognized. The normal mucosal appearance does not rule out the occurrence of reflux.

In patients when the above diagnostic approaches are negative, one can proceed with manometric evaluation with pH monitoring being the most sensitive indicator of reflux. A catheter with 6-8 lumens with the distal four radially oriented is utilized. The more proximal lumens are 5 cm apart, with the distal four lumens being 1 cm apart (Figure 1). A normal lower esophageal sphincter pressure is noted in Figure 2. This is a rapid pull through from 55 cm to 40 cm from the nose (incisor teeth) with the patient holding his breath and pulling the catheter out at 1 cm per second; the lower esophageal sphincter pressure increases 24 mm of mercury (an average of the distal 4 lumens). Normal lower esophageal sphincter pressure is approximately 15 to 35 mm

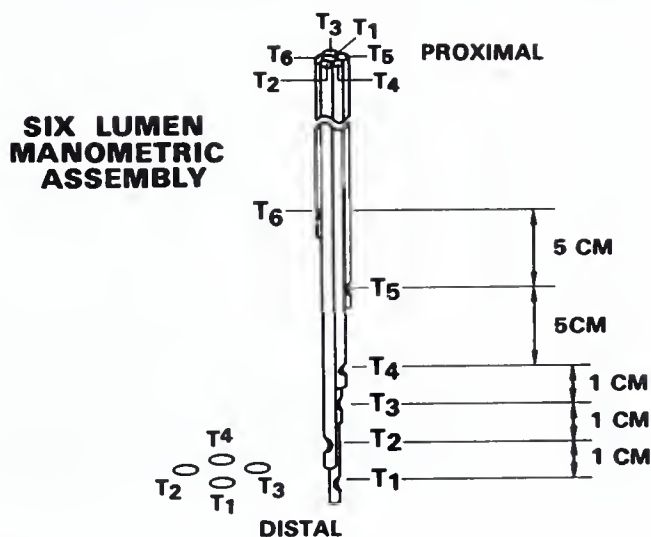


Figure 1.
Schematic representation of an infusion manometry catheter. (See context.)

Hg. An average of three rapid pull-throughs is usually obtained. In Figure 3, noting the last four tracing, the amplitude never increases more than a few mm above the baseline, thus essentially no lower esophageal sphincter is present.

Peristalsis of the body of the esophagus can also be evaluated, particularly to document secondary peristaltic contractions that may follow spontaneous gastroesophageal reflux as an attempt to clear the esophagus of refluxed acid. In Figure 4, the four radially oriented recording sites are placed into the stomach and pulled back at a rate of 1 cm per second to measure the lower esophageal sphincter pressure (RPT—rapid pull through). Also in this figure, it is noted the technique for measuring esophageal reflux, also known as the SART (standard acid reflux test). The pH probe is placed 5 cm above the LES where the normal esophageal pH is approximately 5-6. With maneuvers which increase intra-abdominal pressure such as leg raising Valsalva, or abdominal compression, the pH will drop toward gastric pH. The emptying ability is determined by instilling 15 cc of 0.1 N HCL in the

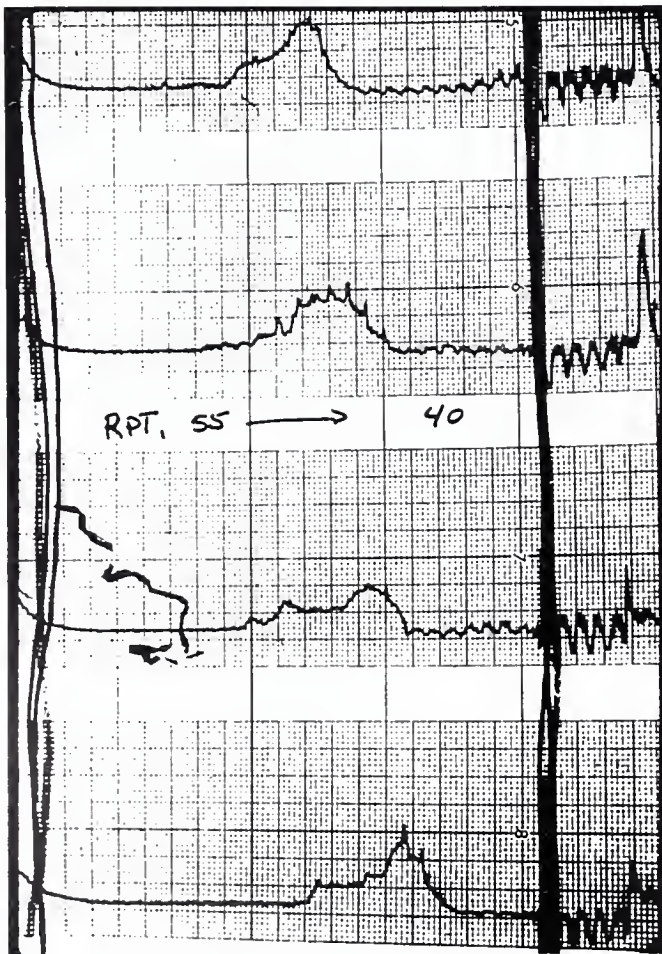


Figure 2. Lower esophageal sphincter pressure as determined by a rapid-pull-through (RPT) as recorder on the distal four radially oriented lumens. Each small block on the ordinate represents 2 mm Hg (normal 15-35 mm Hg).

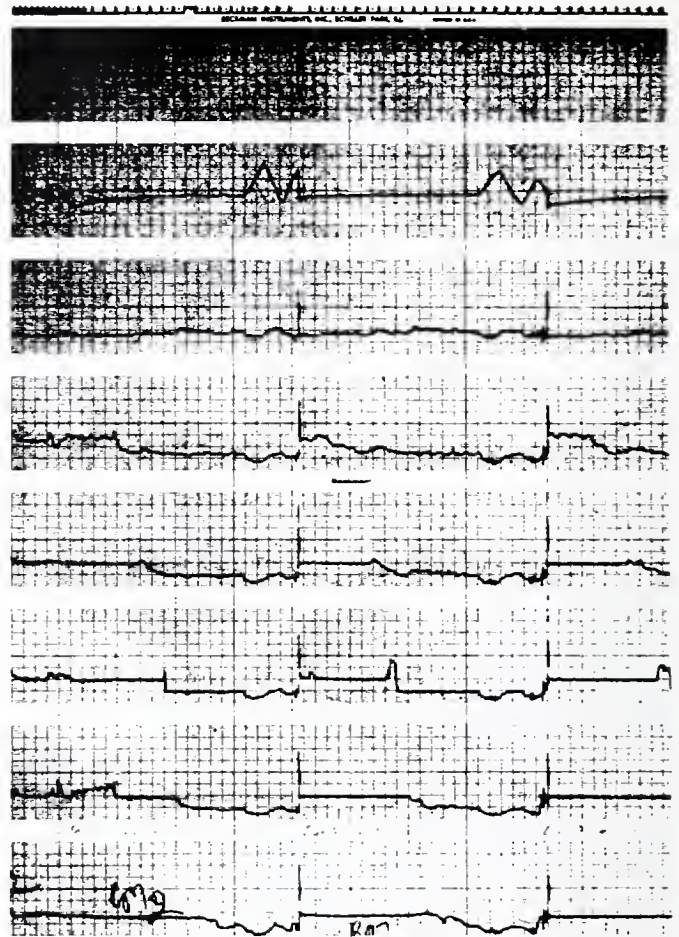


Figure 3. Essentially no LES pressure demonstrated in this patient with Barrett's esophagus. Two rapid-pull-through (RPT) are shown. Top tracing is recording of respirations with RPT obtained in fixed expiration.

TECHNIQUE FOR MEASURING LES P AND ESOPHAGEAL pH

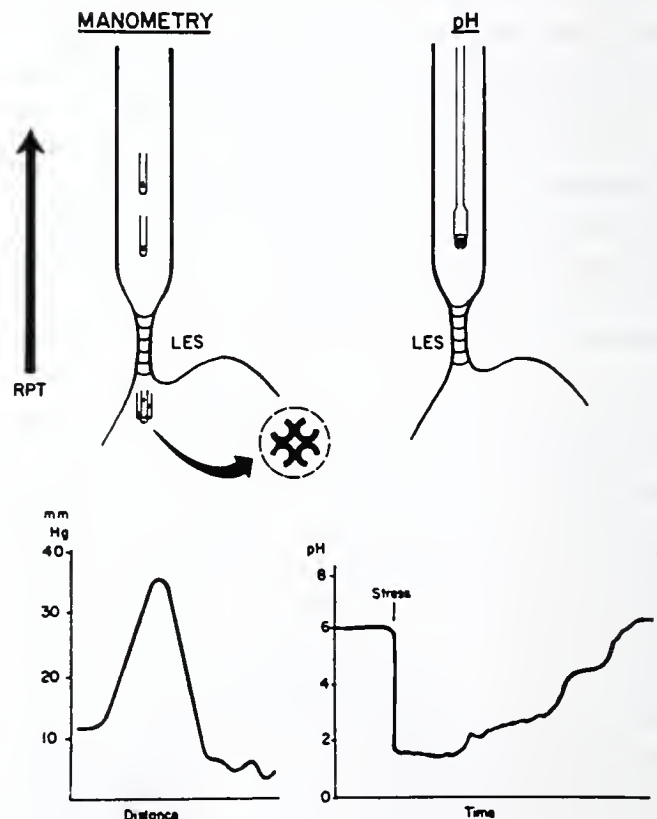


Figure 4. Manometry. Rapid-pull-through (RPH) pH. Standard acid reflux test (SART). See context.

proximal esophagus (usually per tip 5 with tip 6 in the upper esophageal sphincter) and asking the patient to swallow every 30 seconds. Most normal people are able to raise the intraesophageal pH to baseline (5-6) within ten swallows. As might be expected, many of the patients may not be able to do this. This again may be primary or secondary to severe esophagitis. Other maneuvers are also done, including Valsalva and abdominal compression, in which case, the LES should reflexly respond with an increase in pressure to prevent reflux. If the pH drops by 2 units and persists for 10 swallows or longer, this represents reflux. In Figure 5, a tracing is recorded in a patient with Barrett's esophagitis in which the pH drops without provocation to a pH of 2. Secondary peristalsis is what appears to keep us from getting into trouble with reflux. In patients with reflux esophagitis, there appears to be a difficulty in ability to clear, especially at night, and this will be an area of particular interest as to why these patients are not able to clear refluxed acid sometimes even in the face of a normal lower esophageal sphincter pressure. Overnight pH probe monitoring in patients with severe reflux,

particularly those with Barrett's esophagitis, is being studied to further assess this problem.

Thus, manometry can document: (a) lower esophageal sphincter pressure; (b) presence or absence of reflux; (c) any motor abnormalities that may mimic reflux; (d) esophageal emptying ability; (e) in addition, a Bernstein test can help answer the question "do the patients' symptoms result from reflux esophagitis?"²⁴

COMPLICATIONS

Stricture — If histologic changes induced by reflux extend below the mucosa and lamina propria fibrous tissue formation may be stimulated and a stricture may result. This may occur in approximately 15-20% of untreated patients.²⁵ Endoscopy with brushings for cytology and biopsies are indicated to rule out carcinoma.

Deep Esophageal Ulcer — Most patients with reflux esophagitis will have endoscopic evidence of superficial ulceration, but an uncommon complication is the group that progressed to deeper ulceration involving the muscular layer of the esophagus. These are of course at risk for bleeding and/or perforating. This is a complication that occurs in Barrett's esophagus.²⁶

Barrett's Epithelium — This represents squamous mucosa undergoing metaplastic changes to columnar epithelium due to the continued onslaught of reflux. This was originally described in 1950 by N. R. Barrett with his classic description of columnar epithelium lining the lower esophagus, a mid-esophageal stricture and esophageal ulcers usually occurring concomitantly with a hiatal hernia.²⁷ Barrett's epithelium predisposes for the development of three important complications: 1) bleeding, 2) perforation due to deep ulcer with the ulcer behaving more like a gastric ulcer since the normal stratified epithelium in the esophagus is replaced by columnar epithelium more closely representing gastric mucosa, 3) carcinoma: A 10% incidence of adenocarcinoma in a series of 140 cases of extensive columnar metaplasia that is Barrett's epithelium, has been reported by Naef, *et al*,²⁸ as well as reproduced in other studies.

TREATMENT — MEDICAL AND SURGICAL

The medical treatment is aimed at the predisposing factors: (1) prevention of reflux, (2) neutralization of the refluxed gastric contents, (3) enhancement of esophageal clearance of refluxed material, (4) improvement of LES strength. The

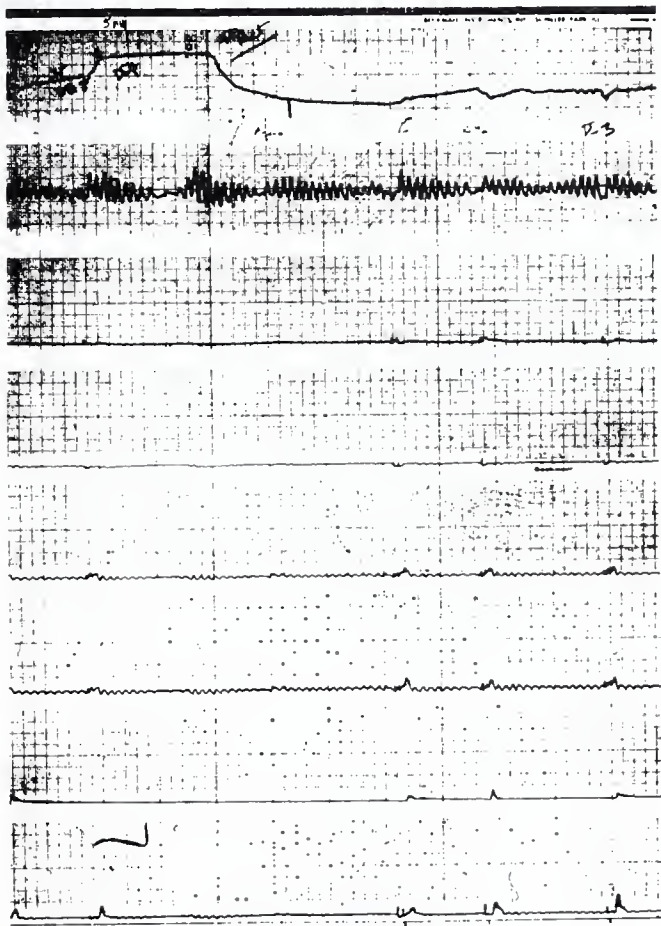


Figure 5. Standard acid reflux test (SART). pH dropped from 6 to less than 2 at rest and presented greater than 10 swallows indicating reflux.

following protocol has resulted in resolution of esophagitis in practically all patients, that is, greater than 95%. Severe, erosive esophagitis may take several months. Endoscopy is the only definitive way to document healing in these patients.

Suggested Protocol

1. Liquid antacids, 1 oz., 1 and 3 hours after meals and at bedtime.
2. Two Gaviscon, two tablets after meals, followed with a glass of water.
3. Cimetidine, 300 mg p.o., ac and hs.
4. Bethanechol (Urecholine) 10 mg p.o., 4 times per day. This may be increased if indicated to 25 mg 4 times a day if no adverse symptoms such as frequent urination, excessive sweating or stomach pain occurs.
5. Elevation of the head of the bed on 8-inch bed blocks.
6. Diet to attain ideal body weight and avoid the foods that adversely affect the LES function.

Very few patients should fail to improve on the above protocol. However, if symptoms and severe esophagitis persist in spite of an aggressive medical regimen as above, surgery should be considered to prevent the progression to esophageal stricture. The three surgical procedures used to treat esophageal reflux are the Nissen, Hill and Belsey funduplications. All have been proven effective in increasing LES pressure, preventing reflux and promoting healing of esophagitis and esophageal ulcer. Pulmonary aspiration which is a manifestation of stricture formation would also be an indication for surgical intervention. Barrett's epithelium is perhaps another indication for surgical intervention in the aggressive anti-reflux measures to stabilize reflux esophagitis and cure complications such as ulcerations and stricture formation, but the transition toward malignancy seems to be irreversible despite fundoplication with the incidence of adenocarcinoma previously quoted as 10%.²⁹

CONCLUSIONS

The symptomatic consequences of gastroesophageal reflux are among the most common complaints seen in gastrointestinal practice. The spectrum is from the majority of patients responding to antacids and mechanical factors to those with severe esophagitis stricture formation and the most serious complication, Barrett's epithelium, with its attendant potential for malignant transformation. It is the purpose of this com-

munication to provide an aggressive diagnostic and management approach to those patients not responding to conventional therapy.

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ELECTROCARDIOGRAM

OF THE MONTH



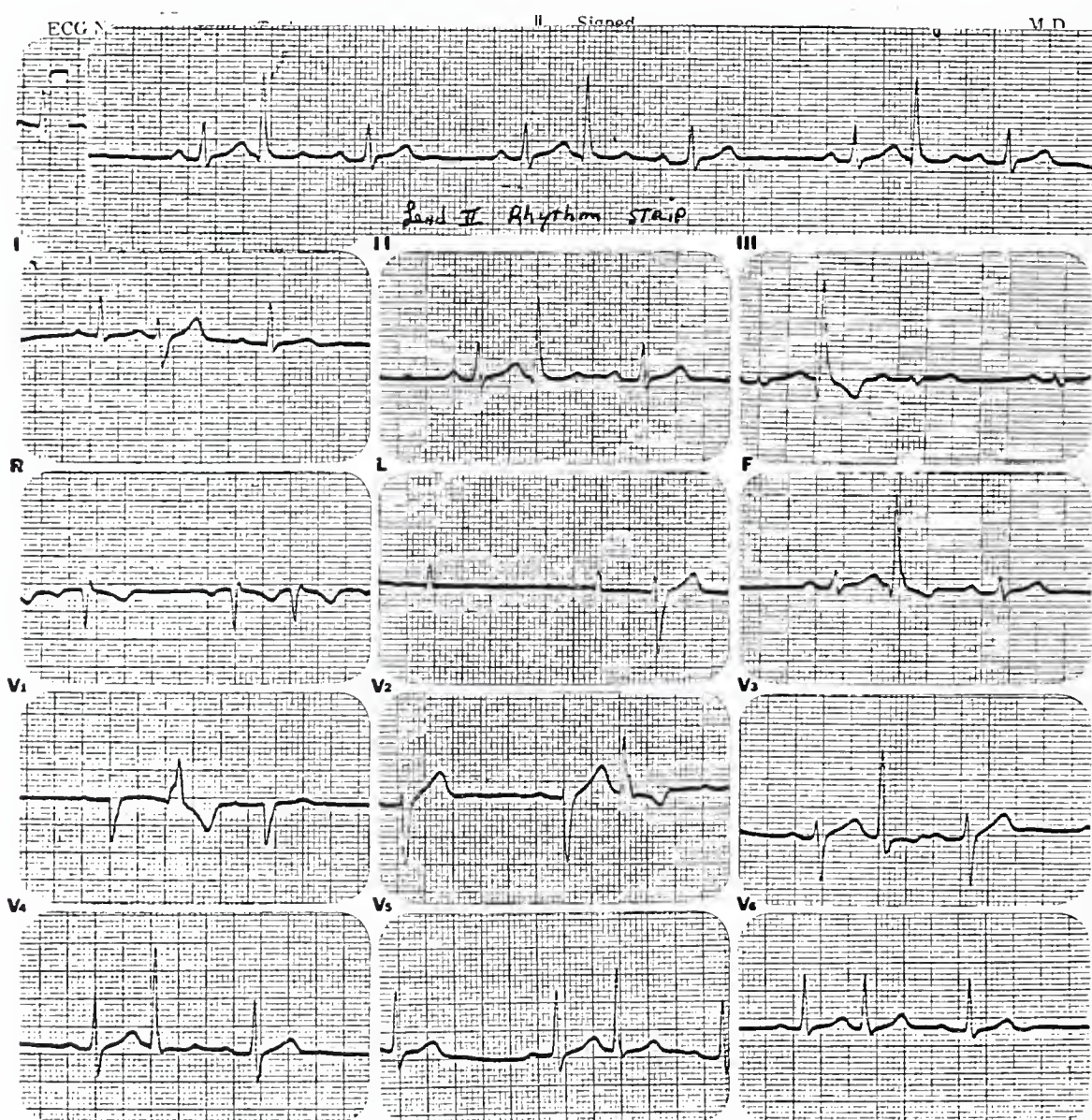
The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 406)

HISTORY: H. H. is a young woman with no cardiac symptoms who was noted to have a regular irregularity of her pulse on routine physical examination. The examination was otherwise normal.

Her ECG is shown.

What do you think about the electrocardiogram?



John W. Watson, M.D.

Assistant Professor

Division of Cardiology

University of Arkansas for Medical Sciences

4301 West Markham

Little Rock, Arkansas 72201

Mucous Cyst

Kenneth G. Jones, M.D.*

Characteristically, this common lesion is found on the dorsal surface of a finger at the level of the DIP joint or beneath the mantle just proximal to the eponychium in late middle-aged individuals, usually females. It presents lateral to the center line. Until recently, it was thought to be a simple myxomatous degeneration of the coreum. We now recognize that it is almost always found in association with the Heberden's nodes of osteoarthritis. Marginal osteophytes appear to erode through the joint capsule and the overlying extensor tendon as it passes across the dorsal region of the distal interphalangeal joint. Mucin secreting synovia is then free to migrate outward from the joint. Subsequently, the overlying skin does undergo myxomatous degeneration. This is clinically manifest by marked thinning of the skin which may become almost transparent (Figure I). Occasionally, the attenuated skin will break down or be incised by the patient or his surgeon, resulting in a chronic sinus. If the drainage of mucin continues for a lengthy period, the process may be further complicated by a secondary pyogenic arthritis. Often,

the fingernail will display grooving and horizontal wave formation (Figure II). These alterations are secondary to the direct pressure exerted by the cyst on the underlying nail matrix.

Although the patient may demonstrate advanced degenerative arthritic changes in all of her or his distal interphalangeal joints, as a rule a mucous cyst is rarely encountered in more than one finger of a patient.

Management consists of observation or surgical intervention. If the lesion is not draining, and if it does not appear that a spontaneous rupture will occur in the near future, and if the patient does not seek surgical intervention, then only observation is needed. Aspiration of the lesion with or without injection with steroids is not, as a rule, helpful and may be followed by a chronic sinus and septic arthritis. Therefore, this approach is not indicated.

To be corrective, surgery requires total excision of the cyst. This can be accomplished through a curvilinear incision over the lesion, with removal of all the attenuated skin. The cyst must be followed as it courses through or around the extensor

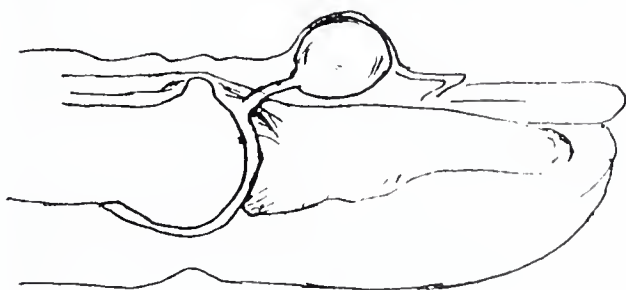


FIG. I

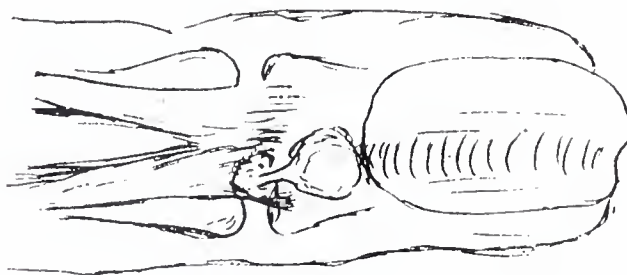


FIG. II

*Little Rock Orthopedic Clinic, 9500 Lile Drive, P. O. Box 5270, Little Rock, Arkansas 72215.

tendon into the arthritic joint. The degenerated capsule and its synovial lining is then removed along with marginal osteophytes. Closure should be accomplished through rotation of a local flap of skin or by insertion of a thick skin graft placed in the small dermal defect.

When the lesion is removed and the defect closed in this manner, recurrence is unlikely. More limited surgery is almost always followed by recurrence. Indicated surgery can be accomplished under a local anesthetic with a finger

tourniquet. Even so, the surgeon does need small instruments and adequate assistance.

Some authors have viewed this lesion as a ganglion. However, it is distinctly different from the classical ganglion in one major respect. It always demonstrates a myxomatous degeneration of the coreum, a change not seen in those ganglia arising elsewhere. Still, it may be that the two are the same. The degenerative changes singular to the mucous cyst may be altogether a consequence of its location.





EDITORIAL

Altered Circulation — Liver and Lung

Alfred Kahn, Jr., M.D.

The mysteries of liver disease continue to be studied but many remain unsolved. Of interest to the medical profession has been the disturbance of fluid metabolism in various liver disorders — from mild to ascites with peripheral edema.

Wond, Carroll, Lipinski, and Capone's writing in *Gastro-Enterology* (Vol. 77, page 1171, December, 1979) give their results of their studies on the renin-angiotensin-aldosterone system on six patients with cirrhosis and nine normal controls. They gave saline and albumin infusions and studied the alterations in renin systems. Their goals were to determine if the renin-angiotensin-aldosterone system could be suppressed in the presence of liver disease and secondly to see if the elevated plasma renin activity in cirrhosis was due to a "decreased effective blood volume." They found that the plasma renin activity in normals and cirrhotics is similar after albumin infusion — they declined; aldosterone also declined in both groups, but not as strikingly in cirrhotics. Saline also caused a decline in plasma renin activity in cirrhotics but not as great as in controls. The authors conclude that in cirrhosis of the liver the elevated plasma renin activity and aldosterone is due to a decrease in "effective blood volume."

"Hepatic Hemodynamics and The Renin-Angiotensin-Aldosterone System In Cirrhosis" is the title of a publication by Bosch, Arroyo, Betriu, Mas, Carrilho, Rivera, Navarro-Lopez, and Rodes (*Gastro-Enterology*, Volume 78, page 92, January, 1980). They relate that in ascites, there is a disturbance of the renin system with increased circulating renin-angiotensin-aldosterone due to increased secretion rather than to decreased ability to inactivate these substances. They state that the elevated renin and aldosterone could come

from two possibilities: firstly, from altered blood volume distribution, and secondly, from portal hypertension — i.e., altered splanchnic hemodynamics. Bosch, et al, studies fifty-four patients with alcoholic cirrhosis of whom thirty-six had ascites; they were classified by the degree of sodium retention and the presence of ascites. Sodium excretion was shown to be inversely related to the plasma renin activity. They studied renal perfusion and found that decreased renal perfusion did not seem to account for the elevated plasma renin although it might contribute. There was found to be a direct relationship between the wedged hepatic venous pressure obtained with a catheter and the plasma renin. Elevated wedged hepatic venous pressure represents the resistance to the flow of blood at the so-called sinusoidal or post-sinusoidal level. Bosch, et al, suggests that their studies indicate that in cirrhosis, there is increased resistance to hepatic blood flow and this altered hepatic hemodynamic function leads to increased plasma renin activity. It is of interest that pre-sinusoidal obstruction does not usually lead to ascites — sinusoidal and post-sinusoidal obstruction leads to ascites and increased plasma renin activity.

Studies on blood flow through the lung have been reported in two papers published in the January 10, 1980, issue of *The New England Journal of Medicine*. Both papers are concerned with primarily pulmonary hypertension. Rubin and Peter presented data on the use of oral hydralazine therapy for primary pulmonary hypertension. Primary pulmonary hypertension is a chronic disorder that follows a "downhill course." It has been difficult to treat and the authors quote a number of drugs that have failed to alter the disease as isoproterenol, tolazoline, adrenal

steroids, anti-histamines, etc. Rubin and Peter tried oral hydralazine on four patients with primary pulmonary hypertension; these patients were breathless but had no obstructive pulmonary disease. The patients were studied by right heart catheterization. These patients had pulmonary artery pressures of 93 to 110 mm Hg systolic. After baseline studies, the patients were treated with hydralazine. After three to six months of treatment, a very decided fall in pulmonary artery pressure was obtained: from 100/56 to 66/44, 93/33 to 79/32, 110/48 to 92/42 and 102/46 to 77/47. Rubin and Peter believe the drop in pulmonary artery pressure was due to pulmonary arteriolar dilation, probably due to a direct effect on the arteriole wall musculature. The by-product of the drug therapy was an increase in cardiac output in liters per minute from 3.5 to

5.1, 3.3 to 8.6, 4.9 to 6.7, and 3.6 to 5.0 — a very significant improvement.

In the same journal with Rubin and Peter is a report on the use of Diazoxide in primary hypertension by Klinke and Gilbert. They discovered the beneficial effect of diazoxide by injecting it into a patient who was undergoing a cardiac catheterization; the patient's high pulmonary artery pressure was reduced rapidly by a diazoxide injection. The patient was later given oral diazoxide with marked improvement of symptoms. They believe diazoxide is a direct vasodilator and the second benefit is the increased cardiac output from a decrease in afterload in the pulmonary circulation.

These papers indicate some significant progress in our understanding of the circulation in the liver and lungs.



"From Other Years"*

(From UAMS Library, History of Medicine/
Archives Division.)

J. Ark. Med. Soc.

2:372-3 February 1982

The Physician is Worthy of His Hire, and the Supreme Court of Arkansas Says the County Courts Must Pay Him For Holding Post Mortem Examinations.

Abstract of Opinion by Mr. Justice Battle.

No. 1446. St. Francis County v. J. B. Cummings, *et al.* On the 6th day of January, 1887, the appellees filed, in the St. Francis County Court, a claim against the county for \$125. This amount was their charge made as physicians and surgeons for holding a *post mortem* examination upon the dead body of Martin Mitchell. The claim was rejected by the County Court, and the appellees appealed to the Circuit Court, where it was allowed at the October term, 1887. The trial in the Circuit Court was upon an agreed statement of facts, which is as follows:

"Come the parties herein by their respective attorneys and agree to the following facts: 'That the Coroner of St. Francis County, with a jury, was investigating the cause of death of one Martin Mitchell; that the said Mitchell had been dead several days, and that the body had become considerably decomposed, and it was alleged by some that said deceased had been poisoned, and by

others that he had been shot and killed, and that it was impossible for the jury to determine in their minds whether the deceased came to his death by natural causes or by violence, and that in the judgment of the Coroner it became necessary to have a *post mortem* examination of the body, and for that purpose the plaintiffs, Cummings and McKnight, physicians and surgeons, were summoned by the Coroner and requested to make such *post mortem* examination and testify as to the cause of the death of said deceased; that the plaintiffs made such examination and gave their testimony as experts before said jury touching said death; that \$125 is a reasonable fee or compensation in such cases; that the said plaintiffs claimed \$125 as a fee as said expert witnesses from the county, which was disallowed. Appeal by plaintiffs to Circuit Court of said County of St. Francis. Judgment for plaintiffs upon foregoing agreed statement of facts by the court for \$125.' "

Held: Only one question is presented for our consideration: Whether or not the county is responsible for services rendered by a physician in making an autopsy at the request of the Coroner in cases where it is necessary to ascertain the cause of death by an inquest. It is the duty of the Coroner to use all proper means to ascertain the truth concerning the death of the subject for inquest, and as such officer he has power to summon

witnesses and use all proper means to ascertain the truth.

He can summon a physician to testify, but he cannot compel him to hold an autopsy. No fee appears in the statute for such services, and no appropriation for such contingencies is placed in the Coroner's hands.

He cannot be held responsible for it personally. It would be unjust and contrary to the spirit of our laws to make him do the work with his own

hands, or to be held personally liable for a physician's fee in such cases as this. But reason and justice demand that the county should pay a reasonable compensation for such services, when it is patent to the County Court that such services were necessary in the interest of justice.

The County Court can investigate the circumstances, examine witnesses, and, if convinced that an allowance should be made, allow it. The judgment of the Circuit Court is therefore affirmed.—[*Arkansas Democrat*.



MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

American Medical Association Executive Vice President James H. Sammons, M.D., has testified before the Health and Environment Subcommittee of the House Energy and Commerce Committee that the AMA and America's physicians have been successful in doing their part to keep health care delivery expenses under control. It is nationwide inflation, Dr. Sammons explained, that is the real culprit in unnecessarily spiraling costs.

"As inflation moderates, we fully expect the medical care sector to be able to achieve reductions in the rate of growth of health care costs," Dr. Sammons added.

Appearing before the Subcommittee with Dr. Sammons were Alex McMahon, American Hospital Association President; Michael D. Bromberg, Executive Director of Federation of American Hospitals, and Paul W. Earle, Executive Director of VE (Voluntary Effort).

Dr. Sammons emphasized that the AMA and the country's physicians are very concerned with growing health care delivery costs and the increased percentage these costs take of the Gross National Product (GNP), but emphasized that improvements in the field have necessarily generated some increase.

"Medical care cannot be delivered without

cost," stated Dr. Sammons, saying that as care, quality and accessibility to care improve and the elderly utilize more services, increases in the medical care costs are inevitable. "Such occurrence does not merit blanket condemnation," he said.

"In 1976 the AMA established the National Commission on the Cost of Medical Care, a group of 27 national leaders from health, government, insurance, labor and industry who spent 18 months drafting 48 cost-effective recommendations," the AMA spokesman testified.

"One year later, the AMA joined with the American Hospital Association and the Federation of American Hospitals to initiate the Voluntary Effort, a program designed to lower hospital cost increases without compromising care quality. VE has since expanded to include Blue Cross/Blue Shield, the Health Industry Manufacturers' Association, the Health Insurance Association of America and the National Association of Counties."

Dr. Sammons noted that by reducing the number of diagnostic tests and streamlining office practices, individual physicians have reduced their share of the total health care costs, accounting for only 18.9 percent of the \$247 billion spent on health care in 1980 as compared with 19.1 percent of the \$74.4 billion spent in 1970. He

added that this is significant in light of a 36 percent increase in the number of physicians and a Consumer Price Index (CPI) jump of over 100 percent for the same period.

"In March 1981 physicians failed, for the first time, to meet their VE goal of staying below the CPI's All Items Index. Part of the reason is the rising cost of maintaining a medical practice," Dr. Sammons said, mentioning that the cost of the average practice is now \$54,500 annually, amounting to 40.3 percent of gross income, as compared with a 1970 figure of \$24,300 representing 36.8 percent of gross income.

"It is our belief that physicians have acted responsibly in their fee setting practices during a period of unprecedented inflation," Dr. Sammons testified.

AMA efforts to meet rising costs have been substantial, Dr. Sammons explained, including the Cost-Effectiveness Evaluation Network, which involves hospital medical staffs in developing cost effective methodologies in an actual hospital setting. Sammons also pointed out that the AMA has successfully urged more than 90 U. S. medical schools to add cost consciousness to their curriculum.

Furthermore, the Accreditation Council for Graduate Medical Education requires resident physicians to apply cost effective measures to their practices.

"The most recent AMA effort has been the development of the Coalitions for Health Care, in which local delivery systems are being analyzed by doctors, insurers, business and labor leaders and other concerned groups for effective cost containment practices." Sammons also noted that such coalitions create a strong base for implementation of existing cost reduction efforts.

"The AMA has and will continue to take an active role to assure the delivery of high quality medical care," Dr. Sammons concluded. "We are also pledged to seek means to see that this care is delivered in the most cost effective manner."

* * * *

The Social Security Administration has launched a sweeping review of the 4 million people receiving disability benefits. As many as 150,000 people may be dropped from the program this fiscal year. Social Security has alerted physicians to expect "a substantial increase in requests for medical reports."

The increase in requests for special consulta-

tive examinations "will be even more substantial because the majority of the beneficiaries will not have seen their own physician recently," Social Security said.

Additional physician consultants will be recruited by the State Disability Determination Services to handle the increased periodic review workload. More physicians to handle the consultative exams will be needed.

The crackdown results from a 1980 Congressional law requiring Social Security starting this January to review nearly every disabled case at least once every three years. The basic purpose is to determine whether the beneficiary is currently unable to work.

Noting that beneficiaries may express concern to their physicians about the reviews, Social Security urged physicians to point out to their patients that they, the physicians, do not give an opinion or participate in the decision on whether the patients are disabled. These decisions are made only by the State Disability offices.

"Over the past few years, Social Security disability benefits came to be regarded by some beneficiaries as a permanent, lifetime entitlement—that benefits would continue until they retired, died or chose to go back to work," said Social Security. "So there is going to be a lot of unhappiness and confusion for the next two to three years as disability benefits are terminated for thousands of Americans."

Emphasized the federal agency: "Social Security disability benefits, in most cases, are intended as a temporary help until people can overcome their impairment and return to work." The benefits in the future will be used "only for those who are really unable to work because of a medically determinable disability—as the law intends."

The review of more than 500,000 claims this fiscal year has important implications for physicians, Social Security said, listing them as:

- The beneficiary's treating physician will be asked to furnish an updated report showing the patient's current condition.
- Where information from the treating sources is insufficient to make a new determination of disability, a consultative examination will be arranged to get the needed data.
- Some patients are going to be upset about having to, in effect, reestablish their entitlement to disability benefits.
- In addition to state offices, Social Security's

regional offices and headquarters will be looking for additional medical consultants. The agency estimates it will be spending almost \$240 million next fiscal year on payments for medical evidence of record and consultant examinations, compared with \$138 million last fiscal year and \$190 million in the current fiscal year. More than 800,000 cases are slated for review in the fiscal year that starts next October. Social Security issued some tips for physicians with disabled patients:

- Patients may call soon after receiving notice their claims are to be reviewed. If the physicians have been seeing the patients regularly and have complete information about the impairments, they should advise the patients they will send in the medical reports promptly. The patients should be reminded that the physicians do not make the disability determination.
- If patients have not been seen recently, physicians may suggest a prompt, thorough examination.
- Patients may call physicians after notification they are not disabled within the meaning of the law. If physicians have already submitted a recent medical report, they should note that they had no part in the finding. But if a medical report for the review was not submitted, and the patient wishes a report, the physicians may want to conduct a special examination, since such beneficiaries have 10 days to submit information for the government to reconsider its decisions.

* * * *

Congress has approved an extra four percent cut in most health programs as part of the stop-gap government spending bill meeting President Reagan's request for an additional \$4 billion reduction in funding levels.

Passage of the measure by House and Senate shortly before adjournment was a victory for the Administration. President Reagan last September had called for new spending slashes. Last month he vetoed a continuing spending resolution that fell short of the President's budget goals.

The \$413 billion continuing resolution adopted by Congress runs through the end of March, but the lawmakers are likely next year to extend the resolution through the end of the current fiscal year, October 1.

The budget situation for health programs at the moment is confused, but the measure basically

calls for spending at a rate which is the lower of the House-passed Health and Human Services (HHS) Department appropriations bill or the Senate Appropriations Committee bill, along with an overall four percent reduction.

Medicare and Medicaid were not subject to the cut.

Congress added some funds for health programs, including \$16.5 million for the maternal and child health block grant and \$24 million for community health centers.

* * * *

The White House Conference on Aging's 2,000 delegates approved some 600 recommendations including a "continuation of the search for a National Health Care Security plan."

Adopting on a single vote the reports of 14 separate committees, the Conference went on record against many of the budget-cutting goals of the Reagan Administration. The main subject of debate throughout the three-day session was Social Security. One committee suggested using general revenues to bolster the Social Security fund; another opposed it. But all of the proposals argued against any decrease in benefits.

The Health section of the Conference called for a program that would cover long-term home health care for older people who aren't entirely self-sufficient but don't require hospitalization.

A prospective payment system should be set up for Medicare and Medicaid under which hospitals and physicians receive advance payment and reimbursement would be limited, a report recommended.

Medicare and Medicaid should cover home health care and services, according to one recommendation.

Federal subsidies for tobacco, alcohol, pesticides and harmful food additives should be dropped, the report said.

Medicare expansions that were proposed included outpatient drugs, dental care, eye examinations, and hearing aids. Expanded mental health benefits was also endorsed.

* * * *

President Reagan named a 44-member task force to stimulate private sector leadership to address community needs. The President told the task force that while the government can provide incentives for voluntarism to flourish, the task force must find and identify opportunities for action. Heading the group is C. William Verity, Chairman of Armco, Inc.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

ANESTHESIA SEMINAR

Presented by Richard Clark, M.D., and Ed Coffman, M.D., Co-director, *April 16-18*, Heber Springs. Five and one-half hours Category I credit. No fee for members. Sponsored by UAMS.

ARKANSAS MEDICAL SOCIETY MEETING

April 29-May 2, Arlington Hotel, Hot Springs. Hour-for-hour Category I credit.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

FAYETTEVILLE — AHEC-NORTHWEST

Medicine Teaching Conference, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, April 1, 15, and May 6, 20, 1:00 p.m., Conference Room.

Pathology Conference, April 20 and May 18, 3:00 p.m., Conference Room.

Mortality Conference, April 8 and May 13, 3:00 p.m., Conference Room.

JONESBORO — AHEC-NORTHEAST

Interesting Case Conference, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

Monthly Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.

Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

Continuing Medical Lecture Series, each Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

Chest Conference, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Pediatric Radiology/Genetics Conference, each Monday, 12:00 noon, Main Conference Room.

Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Physicians' Conference Room.

Infectious Disease Conference, second Wednesday, Physicians' Conference Room.

Problem Case Conference, each Thursday, 12:00 noon, Physicians' Conference Room.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, April 14 and May 12, 7:00 p.m. to 1:00 a.m., Auditorium. Six hours Category I credit.

GI Roundup, April 21 and May 19, 12:00 noon to 1:00 p.m., Conference Room #1.

Pulmonary Care Conference, each Tuesday, 12:00 noon to 1:00 p.m., Conference Room #1.

Emergency Medicine Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.

Morbidity and Mortality Conference, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Surgery Conference, each Thursday except first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Dining Room #3.

Case of the Week, April 11, 28 and May 12, 26, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 p.m. to 1:15 p.m., Coffee Shoppe Dining Room #3.

Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E155, Education Wing.

Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.

Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S-1169, Laboratory.

Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.

Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.

Cardiology Conference, second and fourth Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Internal Medicine Grand Rounds, each Thursday, 8:00 a.m. to 9:00 a.m., Auditorium, Shorey Building, UAMS.

TEXARKANA — AHEC-SOUTHWEST

AHEC Monthly Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.

AHEC Monthly Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.

AHEC Neonatal Conference, "Ultra-Sound and Radiographic Evaluation of the Fetus and Newborn Including New and Latest Techniques," April 15, 12:00 noon, Wadley Hospital.

AHEC Neonatal Conference, "Persistent Pulmonary Hypertension," May 24, 12:00 noon, Wadley Hospital.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



PERSONAL AND NEWS ITEMS

DR. MIZELL HONORED

Dr. Walter S. Mizell of Benton has been granted Life membership in the American Psychiatric Association. After graduation from the University of Arkansas College of Medicine, Dr. Mizell received his psychiatric training at Fitzsimons Army Hospital, Denver, Colorado. In 1964, Dr. Mizell left the Army and joined the medical staff at Benton State Hospital.

DR. CAMP

Dr. Arthur Camp of Hazen served as consulting physician at a "For Women Only" cancer program sponsored by the Town and Country Civic Club in Hazen.

DR. CRAWLEY ELECTED

Dr. Michael Crawley of Jonesboro has been elected Chief of Staff at Craighead Memorial Hospital. Others elected were: Dr. Michael Tedder as Vice Chief of Staff and Dr. S. Morris Young as Secretary, both of Jonesboro.

CORNING GAINS PHYSICIAN

Dr. Cynthia A. Silvestre, formerly of Brooklyn, New York, has located in Corning. Dr. Silvestre specializes in Internal Medicine.

DR. BURNS ELECTED

Dr. R. G. Burns of Jonesboro has been re-elected Chief of Staff at St. Bernard's Regional Medical Center. Other Jonesboro physicians elected as officers were: Dr. C. E. Gossett, Vice Chief of Staff; Dr. Ray Hall, Jr., Secretary; Drs. J. H. Stallings, Jr., and W. L. Garner as members-at-large; Dr. R. A. Blair, Chief of Obstetrics; Dr. E. W. Williams, Chief of Surgery; and Dr. R. W. Johnson, Chief of Medicine.

DR. TOWBIN SERVES

Dr. Eugene Towbin of Little Rock has been appointed to a committee to study the future of the Graduate Institute of Technology in Little Rock.

DR. ASAD MOVES

Dr. Younis A. Asad, formerly of Booneville, is now practicing at the Conway Pediatric Clinic located at 9 Laurel Plaza.

DR. AND MRS. PEEPLES MISSIONARIES

Dr. and Mrs. Raymond Peebles of Hot Springs have been named special project medical workers

by the Southern Baptist Foreign Mission Board and have been assigned to Nigeria.

DR. WILSON OPENS NEW OFFICE

Dr. M. Carolyn Wilson of Mountain Home has opened the Wilson Health Center at 920 South Baker for the practice of Radiology and General Medicine.

DR. CRAIG RETIRES

Dr. Marion S. Craig of Little Rock has announced his retirement from the practice of medicine. Dr. Craig will devote his time to the study of genealogy and family history. He has published three books and numerous articles on his ancestral families.

DR. BOELLNER CHIEF OFFICER

Dr. Samuel W. Boellner of Little Rock is the new president of the medical staff executive committee at Baptist Medical Center. Dr. W. Payton Kolb, Little Rock, is immediate past president. Other officers are: Dr. James R. Rasch, vice president; Dr. Paul Means, anesthesia; Dr. K. W. Cosgrove, EENT; Dr. Dan Dillard, family practice; Dr. Arthur E. Squire, medicine; Dr. Orman Simmons, OB/GYN; Dr. R. Barry Sorrells, orthopaedics; Dr. B. Richard Johnson, pathology; Dr. Dale Bridges, pediatrics; Dr. John Lane, radiology; and Dr. Robert Dickens, surgery.

DR. CHUDY APPOINTED

Dr. Amail Chudy of North Little Rock has been appointed by the American Academy of Family Physicians to an Ad Hoc Task Force on FDA.

DR. SHERIDAN LOCATES

Dr. James Sheridan has joined the staff of the Piggott Clinic for the practice of Internal Medicine.

DR. FELKER ELECTED CHIEF

Dr. Gary Felker of Fort Smith is the new Chief of Staff at Sparks Regional Medical Center. Dr. Joe Dorzab is vice chief of staff and Dr. William Tate is secretary of staff. Chiefs of Services are: Dr. Richard Aclin, pediatrics; Dr. Pat Chambers, psychiatry; Dr. Neil Crow, radiology; Dr. R. G. Girkin, pathology; Dr. Bruce Glover, obstetrics-gynecology; Dr. Ken Lilly, family practice; Dr. David Nichols, medicine; Dr. William Sherrill,

orthopaedics; Dr. William Turner, oncology; Dr. John Weisse, surgery; Dr. Mike Westbrook, emergency room; Dr. Tom Williams, cardiology; Dr. Paul Wills, eyes, ears, nose, and throat; and Dr. Steve Wilson, urology.

DR. ROBERTS NEW CHIEF

Dr. Frank Roberts has been elected chief of staff of the Magnolia City Hospital. Dr. John Farmer is the former chief of staff.

DR. NUTT FILES CANDIDACY

Dr. Hugh A. Nutt of Fordyce has filed as a candidate for the Fordyce School Board.

DR. LIGON ANNOUNCES ASSOCIATION

Dr. Ralph E. Ligon of Pine Bluff has announced the association of Dr. Lee A. Forestiere for the practice of General, Thoracic and Vascular Surgery.

FAMILY PRACTICE CLINIC

Drs. Richard Calleton and Lewis Thompson have opened a Family Practice Clinic in Glenwood.

DR. CHANEY

Dr. Carolyn Chaney, formerly of Marshall, has located in Mountain View.



NEW MEMBERS

DR. J. H. CONNELLY

Dr. Connelly, a native of Terre Haute, Indiana, is a new member of the Garland County Medical Society.

After receiving his B.S. from Indiana University in 1952, Dr. Connelly served with the United States Army Quartermaster Corps until 1954. In 1959 he was graduated from the Indiana State University with an M.S. degree and in 1963 was graduated from the Indiana University School of Medicine. Dr. Connelly's internship was with the Marion County General Hospital, Indianapolis. Before moving to Hot Springs, he was in private practice for seventeen years in Fort Wayne, Indiana.

Dr. Connelly has his office for the General Practice of medicine with the Hot Springs Rehabilitation Center, 105 Reserve, Hot Springs.

DR. FRED M. HEINEMANN

Dr. Heinemann, another new member of the Garland County Medical Society, is a native of Hot Springs.

Dr. Heinemann attended Henderson State College for his pre-med education. He was graduated from the University of Arkansas College of Medicine in 1975. Dr. Heinemann served his internship and residency at St. Louis University Hospitals. He had a Cardiology Fellowship with the University of Missouri Medical Center in Columbia.

Dr. Heinemann specializes in Cardiology and Internal Medicine. His office is located at 110 Hawthorne in Hot Springs.

DR. DAVID KAUFFMAN

Dr. Kauffman has been added to the membership roll of the Independence County Medical Society. He was born in Pine Bluff.

After receiving his B.S. from Southwestern at Memphis in 1974, Dr. Kauffman was graduated from the University of Arkansas College of Medicine in 1978. His internship and residency training in Internal Medicine were with the University Hospital.

Dr. Kauffman is board certified in Internal Medicine. His office for the practice of Internal Medicine is in the White River Medical Arts Building at 17th and Harrison in Batesville.

* * * *

The Sebastian County Medical Society has added two new members to its roll:

DR. JAMES H. HILL

Dr. Hill was born in Cumberland, Maryland. He is a 1960 graduate of Franklin and Marshall College in Lancaster, Pennsylvania, and a 1964 graduate of the Yale University School of Medicine in New Haven, Connecticut.

After an internship with Emory University Affiliated Hospitals in Atlanta, Georgia, Dr. Hill did residency training with Lahey Clinic in Boston, Massachusetts. Dr. Hill served with the United States Eighth Field Hospital in Nha Trang, Viet Nam, from 1968 to 1969. He served one year as Chief of Medicine at Andrew Radar in Arlington, Virginia.

Dr. Hill is board certified in Internal Medicine and Psychiatry. He specializes in Psychiatry and has his office at Holt-Krock Clinic, 1500 Dodson, Fort Smith.

DR. CHRISTOPHER J. TRAUTH

Dr. Trauth, a native of New Orleans, is a 1970 graduate of the University of Southwestern Louisiana. He was graduated in 1974 from the Louisiana State University School of Medicine in New Orleans. His internship and residency training were with Lafayette Charity Hospital, Louisiana.

Before moving to Arkansas in June of 1981, Dr. Trauth practiced two years in Lafayette, Louisiana. Dr. Trauth specializes in Hematology and Oncology. He is associated with Holt-Krock Clinic at 1500 Dodson in Fort Smith.

DR. JAMES F. SMITH

Dr. Smith, a native of St. Petersburg, Florida, is a new member of the Tri-County Medical Society.

Dr. Smith served with the United States Army from 1942 until 1969 when he was retired as a Colonel. In 1944 he received his B.S. degree from Tennessee Polytechnical University in Cookeville.

Dr. Smith received a D.D.S. in 1948 and a Ph.D. in 1959 from the University of Tennessee Center for Health Sciences, Memphis. He was Professor of Pathology at the University of Tennessee from 1955 to 1971 and was Assistant Dean at the University from 1964 to 1971. Dr. Smith received his M.D. degree from the University of Tennessee College of Medicine in 1972. His internship and residency training were with John Gaston Hospital in Memphis. He is board certified in Pathology.

Before moving to Arkansas, Dr. Smith practiced medicine in Mobile, Alabama, for seven years and one year in Memphis.

Dr. Smith specializes in Family Practice. His office is in the North Arkansas Human Services Clinic in Horseshoe Bend.



THINGS TO COME

March 25-26

Arkansas Chapter American College of Surgeons. *Masauki Hara Lecture* March 25th at University Medical Center, Little Rock. *Spring meeting* March 26th and 27th, Arlington Hotel, Hot Springs. Guest speaker will be Dr. Robert Zeppa, Professor and Chairman, Department of Surgery, University of Miami School of Medicine, Florida. For further information, contact Dr. Charles Logan, 500 South University, Little Rock 72205; phone 664-4364.

April 16-18

The General Practice of Anesthesiology. The Arkansas Society of Anesthesiologists and the De-

partment of Anesthesiology, University of Arkansas College of Medicine. Red Apple Inn, Heber Springs. For further information, contact Dr. Ed Coffman, 3200 South Dallas, Fort Smith 72901.

May 21-22

Current Concepts in Vitreo-Retinal Disease and Surgery. Department of Ophthalmology and Continuing Education, Kansas University Medical College, Kansas City. Crown Center Hotel, Kansas City, Missouri. For further information, contact Continuing Education, KUMC, 39th and Rainbow, Kansas City, Kansas 66103; telephone (913) 588-4488.

June 10-12

Annual Meeting, Arkansas Chapter, American College of Surgeons. Speaker will be Dr. John Ray from Ochsner Clinic in New Orleans. Red Apple Inn, Heber Springs. For further information, contact Dr. Charles Logan, 500 South University, Little Rock 72205; phone 664-4364.



PROCEEDINGS OF SOCIETIES



OBITUARY

BRADLEY COUNTY

Drs. F. David Chambers and Kerry F. Pennington have been accepted as members of the Bradley County Medical Society. Dr. Chambers is a 1980 graduate of the University of Arkansas College of Medicine, where he also interned. He has established an office at 219 East Central Street in Warren for the practice of General Medicine. Dr. Pennington, a 1978 graduate of the University of Arkansas College of Medicine, received his Family Practice residency training at John Peter Smith Hospital in Fort Worth, Texas. He is a Fellow of the American Academy of Family Physicians. Dr. Pennington has joined the Warren Family Practice Clinic at 205-207 East Church Street.

Dr. Merl T. Crow retired from active office and hospital practice July 1, 1981, after more than forty years as a physician in Warren. Dr. Crow maintains his position as Medical Director of Pine Lodge Nursing Home in Warren.

DR. CHARLES M. BRIZZOLARA

Dr. Brizzolara, a native of Little Rock, died January 31, 1982. He was born February 23, 1912.

Dr. Brizzolara was a 1936 graduate of the University of Arkansas College of Medicine. In 1959 he retired from the Veterans Administration Medical Center in Little Rock; he was a retired Army captain.

Dr. Brizzolara had no immediate survivors.



ANSWER—Electrocardiogram of the Month

DISCUSSION: This unusual trace shows that the patient is in sinus rhythm. There are triads of complexes with the first beat of each triad having a PR interval of 0.20 sec. and with the third beat of the trio being conducted with a PR interval of 0.24 sec. The second beat of each triad of complexes is an interpolated premature ventricular contraction. One can speculate that the premature ventricular contraction is conducted retrograde to the AV node rendering it partially refractory so that the next sinus impulse is conducted with a longer PR interval. This would thus be compatible with "concealed conduction" of the PVC into the AV node. The author wishes to thank Dr. Leon Blue of Searcy, Arkansas, and Dr. Joe Bissett of Little Rock, Arkansas, for their assistance with this month's feature.

CONVENTION SECTION

Program For Annual Meeting

April 29-May 2, 1982

Arlington Hotel

Hot Springs

Arkansas Medical Society

CONVENTION OFFICIALS

CHAIRMAN: Paul A. Wallick, M. D., Monticello

PROGRAM COMMITTEE:

Richard O. Martin, M.D., Paragould
Ken Lilly, M.D., Fort Smith
J. Larry Lawson, M.D., Paragould
R. W. Ross, M.D., Fort Smith
Frank E. Morgan, M.D., North Little Rock
John M. Hestir, M.D., DeWitt
C. Lynn Harris, M.D., Texarkana
Thomas A. Bruce, M.D., Little Rock
Kelsy Caplinger, M.D., Little Rock
John H. Delamore, M.D., Fordyce

DISTRICT HOSTS: FIFTH COUNCILOR DISTRICT

Cal Sanders, M.D., Camden
George Warren, M.D., Smackover

SCIENTIFIC EXHIBITS CHAIRMAN: J. Larry Lawson, M.D., Paragould

MEMORIAL SERVICE CHAIRMAN: Henry Hearnberger, M.D., Little Rock

CONTINUING MEDICAL EDUCATION CREDIT

As an organization accredited for continuing medical education, the Arkansas Medical Society Committee on Scientific Programs certifies that this continuing medical education activity meets the criteria for hour-for-hour credit in Category I of the Physician's Recognition Award of the American Medical Association.

EDUCATIONAL GRANTS

The Arkansas Medical Society expresses appreciation to the following firms for sponsorship of scientific session speakers:

USV Pharmaceuticals
Pfizer Laboratories
Ayerst Laboratories
Ciba Pharmaceutical Company
Lederle Laboratories

The Society also expresses appreciation to the following firms for educational grants for the convention:

Eli Lilly and Company
Parke-Davis and Company

General Information

REGISTRATION

The registration desk will be located in the mezzanine lobby of the Arlington Hotel and will be open as follows:

Thursday, April 29	8:00 a.m. to 5:00 p.m.
Friday, April 30	8:00 a.m. to 5:00 p.m.
Saturday, May 1	8:00 a.m. to 5:00 p.m.
Sunday, May 2	8:00 a.m. to 11:00 a.m.

Registration cards and badges will be prepared in advance for the officers of the Arkansas Medical Society and for the county society delegates. Delegates are requested to present credentials in proper form when registering.

All members and visitors are requested to register, as admission to all sessions will be by badge only. Bring your 1982 membership card to facilitate registration.

There will be a \$5 registration fee for non-member physicians.

Advance reservations will be requested by mail for the western party on Friday evening and for the Prayer Breakfast on Saturday morning. Please watch your mail for reservation forms.

TELEPHONE SERVICE

As a convenience to physicians in attendance at the meeting, arrangements have been made for telephone service at the Society convention registration desk. It is suggested that you give the following information to your office personnel so that you may be contacted in case of any emergency.

Arkansas Medical Society Convention Registration Desk telephone number at the Arlington Hotel: 623-8424. This is a direct line to the Medical Society staff during registration hours. The hotel switchboard number is 623-7771.

THURSDAY EVENING PARTY

Arkansas Blue Cross-Blue Shield will host a cocktail party for members of the Society and their guests on the first evening of the convention. The party will begin at 7:00 p.m. in the Arlington Hotel on Thursday, April 29.

FRIDAY EVENING PARTY

A western-style party is planned for 7:00 p.m. on Friday evening of the convention (April 30). This will be an informal affair with a buffet meal and a band for dancing. Dress will be western or casual. Advance reservations and ticket sales will be handled by mail. Watch for reservation forms.

SATURDAY EVENING INAUGURAL CEREMONY AND RECEPTION

The inauguration of the new president of the Society will again this year be a staged ceremony with the audience seated theatre-style. The ceremony will begin at 7:00 p.m. Morriss M. Henry, M.D., of Fayetteville, will be installed as president of the Society for 1982-83. The current president, Purcell Smith, Jr., M.D., of Little Rock will serve as master of ceremonies.

Following the inaugural ceremony, the Council will host a reception for all members of the Society and Auxiliary. The inaugural festivities will be in the Arlington. All members of the Society and Auxiliary are encouraged to attend both the inaugural ceremony and the Council reception.

FIFTY YEAR CLUB LUNCHEON

The Society will host a luncheon for members of the Fifty Year Club at 12:00 noon on Friday, April 30, in the Arlington Hotel. Members of the Fifty Year Club may make reservations for the luncheon by mail or at the Society's convention registration desk.

Dr. Charles R. Henry of Little Rock is president of the Fifty Year Club and Dr. Edgar Easley of Little Rock is secretary.

PAST PRESIDENTS' BREAKFAST

A breakfast for past presidents of the Arkansas Medical Society will be hosted by the Society on Sunday morning, May 2. The breakfast will begin at 7:30 a.m. in the Arlington.

PRAYER BREAKFAST

The Committee on Medicine and Religion will hold a Prayer Breakfast at 7:30 a.m. on Saturday, May 1, in the Arlington Hotel.

Dr. Walter H. O'Neal of Little Rock will be the breakfast speaker. Dr. Jack Blackshear of Little Rock will sing, accompanied by Dr. Eugene Taylor of Little Rock.

All members of the Society and the Auxiliary are invited to attend the breakfast. Advance reservations will be handled by mail.

Dr. Fred Henker of Little Rock is chairman of the Medicine and Religion Committee.



Memorial Service

A joint Society-Auxiliary Memorial Service will be held on Sunday morning, May 2, beginning at 9:30 a.m. The Society president, Dr. Purcell, Smith, Jr., of Little Rock, will preside. The program for the service will be as follows:

Invocation: "*Lord's Prayer*," sung by Mike Edwards, Director of Music of the
First Baptist Church of Hot Springs

Reading of names of deceased members of the Society by Dr. Smith

Reading of names of deceased members of the Auxiliary by Mrs. Raymond
Peeples, president of the Auxiliary

Memorial Address: Dr. Doug Dickens, Pastor of the First Baptist Church of
Hot Springs

Benediction: "*Eternal Life*," sung by Mr. Edwards

IN MEMORIAM

SOCIETY MEMBERS

Dr. William O. Arnold, Hot Springs
Dr. James I. Balch, DeQueen
Dr. Charles M. Brizzolara, Little Rock
Dr. Phillip T. Cullen, Little Rock
Dr. T. J. Cunningham, Jr., Pine Bluff
Dr. Julian R. Fairley, Osceola
Dr. Eli Gary, Arkadelphia
Dr. William Paul Gray, Batesville
Dr. Robert A. Hayes, Wynne

Dr. Gaston A. Hebert, Hot Springs
Dr. James B. Holder, Jr., Monticello
Dr. Thomas H. Jones, Waldo
Dr. Frederick H. Krock, Fort Smith
Dr. Ralph M. Patterson, Hot Springs
Dr. B. J. Reaves, Little Rock
Dr. Vernon E. Sammons, Jr., Hot Springs
Dr. D. B. Stough, Hot Springs
Dr. T. S. Van Duyn, Stuttgart

AUXILIARY MEMBERS

Mrs. Shelby Atkinson, North Little Rock
Mrs. Robert M. Eubanks, Little Rock
Mrs. Charles G. Hinkle, Batesville
Mrs. George Pollock, Osceola
Mrs. E. O. White, Hamburg

Business Sessions

MEETINGS OF THE COUNCIL

The Council of the Arkansas Medical Society will meet during the convention as follows:

Thursday, April 29	9:30 a.m.
Friday, April 30	7:30 a.m.
Saturday, May 1	8:30 a.m.
Sunday, May 2	9:00 a.m.
Sunday, May 2	Immediately following adjournment of the House of Delegates (brief re- organizational meeting and group photograph of new officers)

The voting members of the Council are: the councilors, the president, the first vice president, president-elect, secretary, treasurer, and immediate past president. The speaker, vice speaker, and other past presidents are members ex-officio without vote.

HOUSE OF DELEGATES

The opening session of the House of Delegates of the Arkansas Medical Society will begin at 12:30 p.m. on Thursday, April 29, in the Arlington Hotel. Speaker of the House of Delegates, Amail Chudy, M.D., will preside.

All items of business to be considered by the House must either be printed in the March issue of the Journal or submitted to the headquarters office in writing twenty days prior to the meeting. Any new business proposed during the sessions of the House of Delegates must have a two-thirds vote of attending delegates for introduction.

Items of business will be referred by the Speaker of the House of Delegates to one of three reference committees. Open hearings on those items of business will be held by the reference committees following the session of the House. All members of the Society are welcome to attend the meetings of the reference committees and to express views on the various reports, resolutions, etc.

A G E N D A

FIRST MEETING, HOUSE OF DELEGATES

12:30 p.m., Thursday, April 29

1. Call to Order
2. Roll Call of Delegates
3. Report of the Credentials Committee
4. Introduction of Guests:
 - Mrs. J. Edward Hill, Hollandale, Mississippi, Chairman of the Health Projects Standing Committee of the American Medical Association Auxiliary
 - Mrs. Keith Jones, Warrensburg, Missouri, President of the Southern Medical Association Auxiliary
 - Mrs. Raymond E. Peebles, Hot Springs, President of the Arkansas Medical Society Auxiliary
 - Mrs. C. Herbert Taylor, West Memphis, President-elect of the Arkansas Medical Society Auxiliary
5. Address by Frank J. Jirka, M.D., Berwyn, Illinois, Member of the Board of Trustees of the American Medical Association

6. Address by the President of the Arkansas Medical Society, Purcell Smith, Jr., M.D., Little Rock
7. Adoption of minutes of the 105th Annual Session as published in the June 1981 issue of the Journal of the Arkansas Medical Society
8. Old Business

A. S. Koenig, Jr., M.D., Chairman of the Constitutional Revisions Committee, will present proposed amendments to the Constitution and Bylaws for final consideration of the House.

A proposed amendment to the Constitution would make the immediate past president of the Society a voting member of the Executive Committee of the Council.

A proposed amendment to the Bylaws would provide for selection of a nominating committee at the April meeting; the nominating committee would be required to submit a proposed slate of officers to the headquarters office by February 1 and election would be by the House of Delegates at the next annual meeting. Under the present provisions of the Constitution, the committee is elected on the opening day of an annual meeting, makes its report on the last day of the convention and the election is held when the committee makes its report. If this amendment is adopted, the nominating committee selected today would serve for nomination of both the 1982-83 officers and the 1983-84 officers.

The wording of the proposed amendments appears under "House of Delegates Business Affairs" heading in this section of the Journal.

9. New Business

A. Report from Constitutional Revisions Committee

A. S. Koenig, Jr., M.D., Chairman of the Constitutional Revisions Committee, will present proposed amendments to the Constitution and Bylaws for first reading. After presentation to the House, the proposed amendments will be referred to a reference committee for consideration. (See Report of the Constitutional Revisions Committee which appears under the "House of Delegates Business Affairs" heading in this section of the Journal.)

B. Reports from other Society Committees

10. Announcements of Vacancies on State Boards

Arkansas State Medical Board

A vacancy in the Member-At-Large position on the Arkansas State Medical Board will be created with the expiration of the term of Stanley Applegate, M.D., of Springdale, on December 31, 1982. At-Large positions are filled through the Society nominating committee.

Arkansas State Board of Health

Vacancies will occur December 31, 1982, in the Second and Fourth Congressional District positions on the Arkansas State Board of Health. Dr. W. J. Ketzer of Batesville is currently serving for the Second District and Dr. James E. Seale, Jr., of El Dorado is currently serving for the Fourth District. (See Announcement of Board Vacancies which follows.)

11. Selection of Nominating Committee for Society Officers

Members of the House will meet by councilor district to select one nominating committee member from each district. The nominating committee will submit a proposed slate of officers for the 1982-83 year. In the event the proposed amendment to the Bylaws is approved, the nominating committee selected this year would also serve for nomination of officers for the 1983-84 year.

REFERENCE COMMITTEES

Reference Committees are appointed by the Speaker of the House of Delegates to consider the various reports and resolutions. Reports published in the March issue of the Journal, as well as any reports and resolutions presented at the first meeting of the House on April 29, will be referred by the Speaker to the reference committees. The committees hold open meetings at 2:30 p.m. on the various items of business. Following the open hearings, the reference committees will hold executive sessions for the purpose of preparing recommendations and reports for the House of Delegates. Reports of the Reference Committees will be acted upon by the House of Delegates at the Sunday session.

Members of the Reference Committees are:

Reference Committee Number One

Kemal Kutait, M.D., Fort Smith, Chairman
Merrill J. Osborne, M.D., Blytheville
Allan S. Pirnique, M.D., El Dorado
Charles S. Logan, M.D., Little Rock
E. K. Clardy, M.D., Hot Springs
A. C. Bradford, M.D., Fort Smith
Observer: Lee Archer, Medical Student

Reference Committee Number Two

A. E. Andrews, M.D., Texarkana, Chairman
John Hestir, M.D., DeWitt
J. Darrell Bonner, M.D., Paragould
Warren Boop, M.D., Little Rock
Banks Blackwell, M.D., Pine Bluff
Lee Parker, Jr., M.D., Fayetteville
Observer: Rickey Medlock, Medical Student

Reference Committee Number Three

George F. Wynne, M.D., Warren, Chairman
Kelsy J. Caplinger, M.D., Little Rock
Dwight W. Gray, M.D., Marianna
Bascom P. Raney, M.D., Jonesboro
Robert D. Miller, M.D., Helena
Albert L. Baltz, M.D., Pocahontas
Observer: Richard Owings, Medical Student

STATE BOARD VACANCIES

Arkansas State Medical Board

A vacancy occurs in the member-at-large position on the Arkansas State Medical Board. This position will be filled by nomination through the Society nominating committee.

Stanley Applegate, M.D., Springdale, is currently serving a term which will expire December 31, 1982. He is eligible for reappointment.

Arkansas State Board of Health

Vacancies occur in the Second and Fourth Congressional District positions on the Arkansas State Board of Health. Members from the counties in the districts are urged to meet immediately following adjournment of the House of Delegates meeting on Thursday to vote for nominees. Three nominations are required for each position. Members presently serving and counties in the districts are:

Second District: W. J. Ketz, M.D., Batesville. Term expires December 31, 1982. Counties in District: Cleburne, Fulton, Independence, Izard, Jackson, Lawrence, Monroe, Prairie, Randolph, Sharp, Stone, White and Woodruff.

Fourth District: James E. Seale, Jr., M.D., El Dorado. Term expires December 31, 1982. Counties in District: Ashley, Bradley, Calhoun, Clark, Columbia, Hempstead, Howard, Lafayette, Little River, Miller, Montgomery, Nevada, Ouachita, Pike, Polk, Sevier and Union.

AGENDA
FINAL MEETING, HOUSE OF DELEGATES
10:00 a.m., Sunday, May 2

1. Call to Order
2. Report of the Nominating Committee
3. Elections

Society officers:

President-elect
First Vice President
Second Vice President
Third Vice President
Secretary
Treasurer
Speaker of the House of Delegates
Vice Speaker of the House of Delegates
Councilors (one for each of the ten councilor districts)

1. Asa A. Crow, M.D., Paragould
2. John E. Bell, M.D., Searcy
3. L. J. P. Bell, M.D., Helena
4. John P. Burge, M.D., Lake Village
5. Cal R. Sanders, M.D., Camden
6. C. Lynn Harris, M.D., Texarkana
7. Robert F. McCrary, M.D., Hot Springs
8. William N. Jones, M.D., Little Rock
9. Rhys A. Williams, M.D., Harrison
10. Ken Lilly, M.D., Fort Smith

American Medical Association Delegate and Alternate
Delegate to the American Medical Association

Term of Joe Verser, M.D., Harrisburg, expires December 31, 1982

Alternate Delegate to the American Medical Association

Term of A. E. Andrews, M.D., Texarkana, expires December 31, 1982

Member-at-large position on the Arkansas State Medical Board

Term of Stanley Applegate, M.D., Springdale, expires December 31, 1982

4. Report of Reference Committees:

Committee Number 1: Kemal Kutait, M.D., Fort Smith, Chairman
Committee Number 2: A. E. Andrews, M.D., Texarkana, Chairman
Committee Number 3: George F. Wynne, M.D., Warren, Chairman

5. Supplemental Report of the Council: John P. Burge, M.D., Chairman
6. New Business
 Vacancies on the State Board of Health—Second and Fourth Congressional Districts
7. Adjournment

ARKANSAS FOUNDATION FOR MEDICAL CARE

The Board of Directors of the Arkansas Foundation for Medical Care will meet at 3:00 p.m. on Saturday, May 1, in the Arlington Hotel. The annual meeting of the Foundation will be held at 4:00 p.m.

The annual meeting of the Foundation is open to all physicians but only members of the Foundation may vote on items of business.

ARKANSAS MEDICAL SOCIETY POLITICAL ACTION COMMITTEE

The Board of Directors of the Arkansas Medical Society Political Action Committee will meet at 3:00 p.m. on Saturday, May 1, in the Arlington Hotel.

ARKANSAS STATE BOARD OF HEALTH

The Arkansas State Board of Health will meet at noon on Friday, April 30, in the Arlington Hotel, Hot Springs.

ARKANSAS STATE MEDICAL BOARD

The Arkansas State Medical Board will meet at 1:00 p.m. on Friday, April 30, in the Arlington Hotel, Hot Springs.

INSURANCE COMMITTEE MEETING

The Insurance Committee of the Arkansas Medical Society will meet at 11:00 a.m. on Thursday, April 29th, in the Arlington Hotel, Hot Springs.



Scientific Exhibits

J. Larry Lawson, M.D., Chairman of the Scientific Exhibits, has arranged a number of interesting scientific exhibits. Exhibits will be located in an area adjacent to the scientific lectures. All members are encouraged to visit the exhibits as they are an integral part of the scientific program.

The following exhibits will be on display:

The Ear and Nose-Throat Clinic, Little Rock —

D. Bud Dickson, M.D., Little Rock — “Arthroscopy for the Athletic and Arthritic Knee”

D. Bud Dickson, M.D., Little Rock — “Total Joint Replacement for the Arthritic Hip and Knee”

Retinal Group, Ltd. (Drs. R. Sloan Wilson and James H. Landers), Little Rock — “The Painful Eye”

Little Rock Orthopaedic Clinic (Dr. Kenneth G. Jones), Little Rock — “Fracture of Scaphoid (Carpal-Navicular)” Diagnosis and Management

Little Rock Orthopaedic Clinic (Drs. Charles C. Schock and Phil Johnson), Little Rock —

Ellergy C. Gay, Jr., M.D., Little Rock — “Outpatient Cosmetic Facial Surgery”

Radiology Associates, Little Rock — “Experience With Spine C.T.”

Department of Radiology, University of Arkansas College of Medicine — “Small Bowel Enteroclysis”

Department of Otolaryngology and Maxillofacial Surgery, University of Arkansas College of Medicine — “Prosthesis for Cleft Lip and Palate Patients,” Hassan Bashiri, M.D.; “Inverted Papilloma and Squamous Carcinoma — An Unusual Case,” Drs. Margaret Kenna and Bruce Leipzig; “Scleral Shell,” Jack Diner and Mary Fran Scrimager

Department of Pathology, University of Arkansas College of Medicine — “The Use of the PAP Technique in Surgical Pathology”

Michael W. Stannard, M.D., Arkansas Children's Hospital — “Cranial Sonography: Anatomic-Pathologic Correlation”

Area Health Education Centers — “AHEC's Goals, Resources and Programs”

Arkansas Spinal Cord Commission —

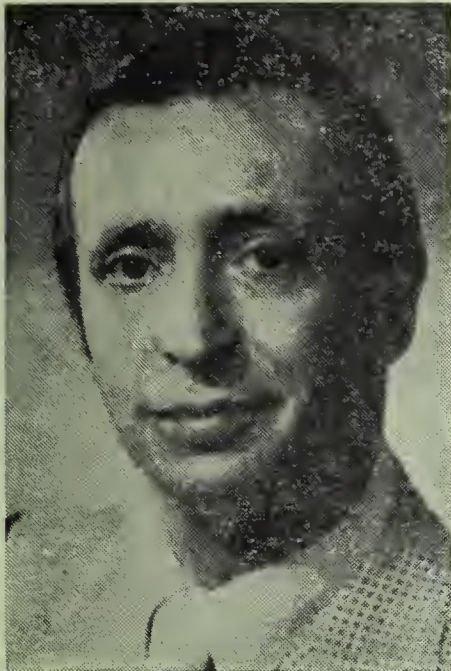
Arkansas Academy of Pediatrics — “First Ride, Safe Ride”

George Schroeder, M.D., Little Rock — “Laser Photo Coagulation in Glaucoma”

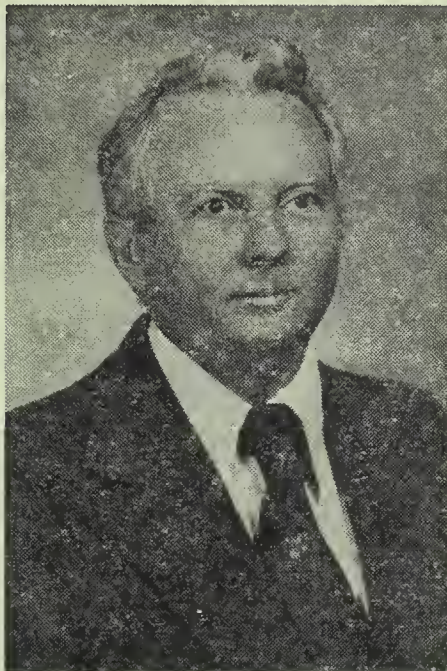
C. N. Sun, M.D., Department of Pathology, VA Hospital-UACM — “Unusual Membrane Bound Intro-Nuclear Inclusions in Human Fibroblast Infected With Herpes Simplex”; “A Combination of T.E.M. and S.E.M. of Human Jejunum in Whipples' Disease”; “Oncocytoma and Warthins Tumor of the Parotid”

A. G. Pellizzetti, M.D., El Dorado — “Arkansas' First Mobile Diagnostic Service”

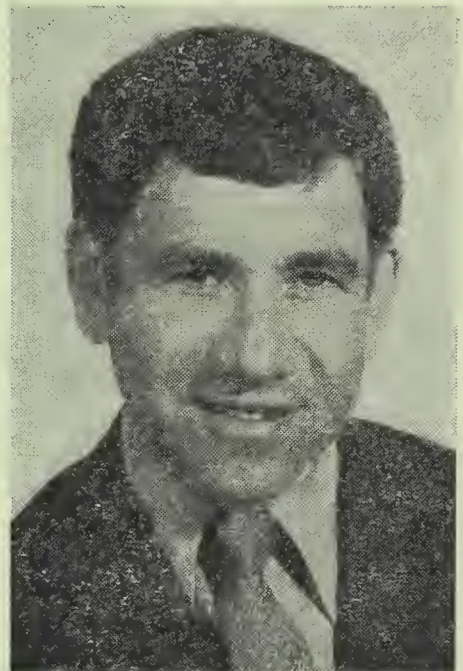
Distinguished Speakers



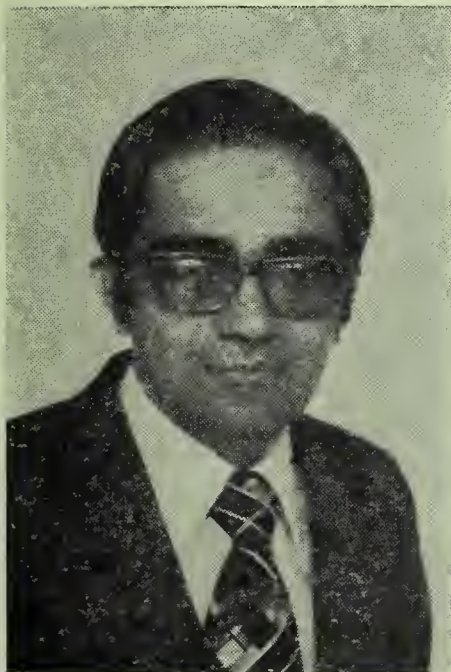
Frank J. Jirka, M.D.
Berwyn, Illinois
Member, Board of Trustees
American Medical Association



Robert Hughes, M.D.
Mackey Foundation
Memphis



Jerome D. Cohen, M.D.
Associate Professor
Department of Internal Medicine
St. Louis University School of Medicine

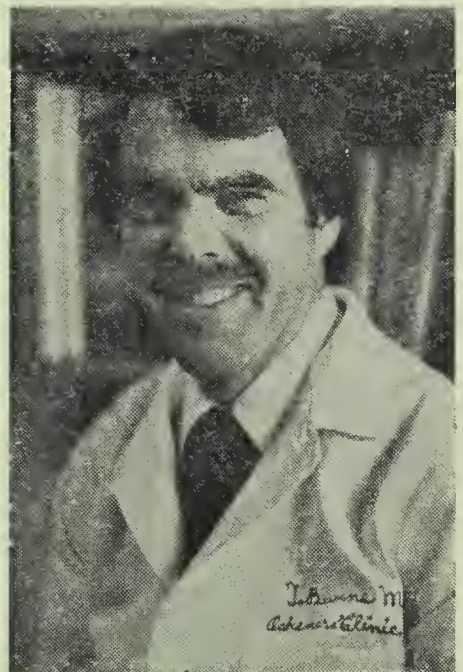


Neil D. B. de Soyza, M.B.B.S.
Department of Cardiology
Veterans Administration Hospital
Little Rock

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for following speakers

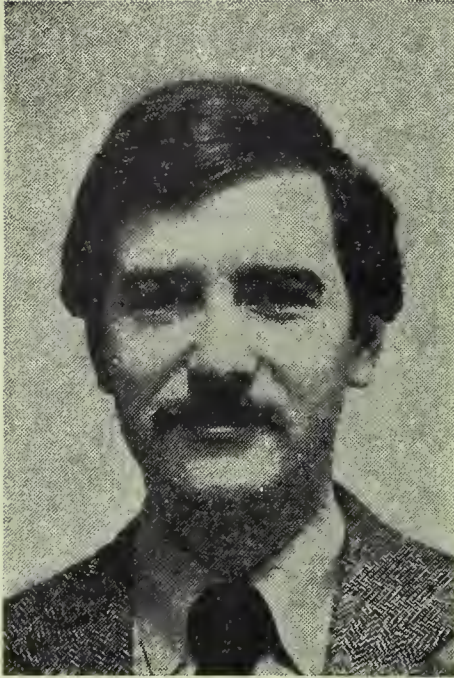
Peyton Eggleston, M.D.
Associate Professor of Pediatrics
Johns Hopkins

J. L. Breslow, M.D.
Boston

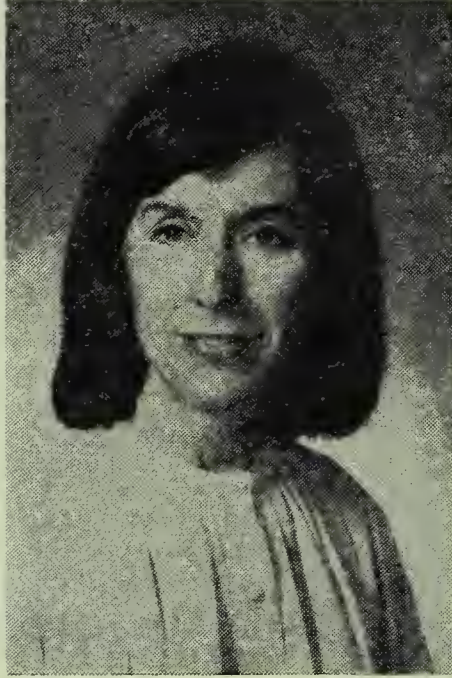


Theodore W. Burns, M.D.
Ochsner Clinic
New Orleans

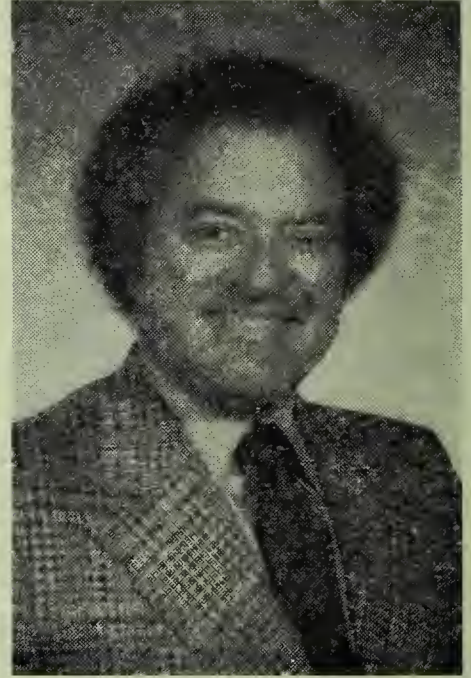
Distinguished Speakers



Richard McCarthy, M.D.
Section of Children's Orthopaedics
Children's Hospital
Little Rock

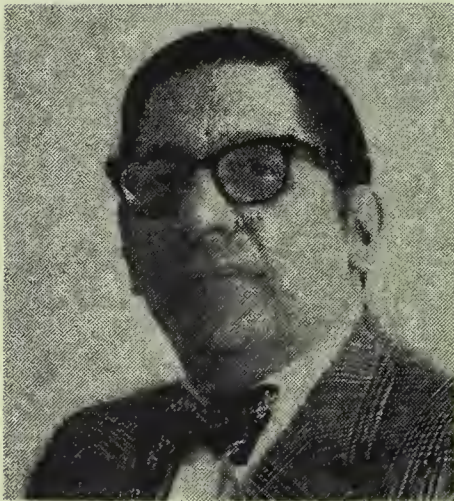


Jane E. Shaw, Ph.D.
Vice President for Product Research and
Development and Director of
Transdermal Program,
ALZA Corporation, Palo Alto



Ed Kelsay
Legal Counsel
Oklahoma State Medical Association
Oklahoma City

Photos not available
for following speakers



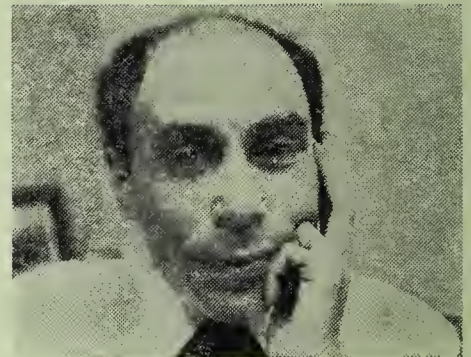
Sam Nixon, M.D.
Houston
Immediate Past President
American Academy of
Family Physicians

E. Darracott Vaughn, M.D.
Department of Urology
Cornell University Medical College
New York

Barney M. Dlin, M.D.
Clinical Professor of Psychiatry
Temple University
Health Sciences Center
Philadelphia

James L. Whittle, M.D.
Director,
Cardiac Catheterization Laboratory
Veterans Administration
Medical Center
Little Rock

Charles W. Gross, M.D.
Memphis



Lionell Corbett, M.D.
Illinois State Psychiatric Institute
Chicago

Scientific Program

GENERAL SESSION

Program Theme:

"Preventive Medicine for the 80's"

Friday Morning, April 30

Presiding: Paul Wallick, M.D., Third Vice President

- 9:00 a.m. Charles W. Gross, M.D., Memphis
"Myringotomy and Ventilation Tubes for Recurrent Otitis Media"
- 9:30 a.m.
- 10:00 a.m. Intermission
- 10:30 a.m. Theodore W. Burns, M.D., Ochsner Clinic, New Orleans
"Esophageal Chest Pain: Changing Concepts in the Role of Esophageal Motor Disorders"
- 11:00 a.m. Jerome Cohen, M.D., Associate Professor, Department of Internal Medicine, St. Louis University School of Medicine
"Risk Factor Modification and The Prevention of Coronary Heart Disease"
- 11:30 a.m. Peyton Eggleston, M.D., Associate Professor of Pediatrics, Division of Immunology, Johns Hopkins, Baltimore
"Exercise-Induced Asthma—Lessons in the Chronic Management of Asthma"

Friday Afternoon, April 30

Presiding: Frank E. Morgan, M.D., First Vice President

- 1:30 p.m. J. L. Breslow, M.D., Boston
"Lipoproteins and Atherosclerosis"
- 2:00 p.m. James L. Whittle, M.D., Director, Cardiac Catheterization Laboratory, Veterans Administration Medical Center, Little Rock
"Coronary Artery Spasms and Calcium Channel Blockers"
- 2:30 p.m. Neil D. B. de Soyza, M.B.B.S., Department of Cardiology, Little Rock Veterans Administration Hospital
"The Beta-Blockers Heart Attack Trial and Its Clinical Implications"
- 3:00 p.m. Intermission
- 3:30 p.m. Robert R. Hughes, M.D., Mackey Foundation, Memphis
"Preventive Medicine and Gynecologic Oncology"
- 4:00 p.m. Richard McCarthy, M.D., Section of Children's Orthopaedics, Arkansas Children's Hospital, Little Rock
"Scoliosis Screening in Arkansas"
- 4:30 p.m. Jane E. Shaw, Ph.D., Vice President for Product Research and Development and Director of the Transdermal Program, ALZA Corporation, Palo Alto, California
"Topical Administration of Drugs for Systemic Therapy"

Saturday Morning, May 1

Presiding: Harold D. Purdy, M.D., Second Vice President

- 9:00 a.m. E. Darracott Vaughan, M.D., Department of Urology, Cornell University Medical College, New York
- 9:30 a.m. Sam Nixon, M.D., Houston
"Sexually Transmitted Disease in the 80's"
- 10:00 a.m. Intermission
- 10:30 a.m. Lionell Corbett, M.D., Illinois State Psychiatric Institute
"New Pharmacologic Treatments for Depression"
- 11:00 a.m. Barney M. Dlin, M.D., Clinical Professor of Psychiatry, Temple University Health Sciences Center, Philadelphia
"The Anniversary Reaction: A Preventable Illness, Its Detection and Treatment"
- 11:30 a.m. Ed Kelsay, Legal Counsel, Oklahoma State Medical Association
"Avoiding Office Legal Problems"



Group and Specialty Meetings

Thursday, April 29

The Alan Cazort Allergy Society of Arkansas will meet at Coy's Restaurant in Little Rock on Thursday, April 29. Cocktails will be served at 6:30 p.m.; the meeting begins at 7:30 p.m. Peyton Eggleston, M.D., Associate Professor of Pediatrics, Division of Immunology, Johns Hopkins University School of Medicine in Baltimore, will speak on "Asthma."

Friday, April 30

The Arkansas Chapter of the American College of Surgeons will have a luncheon meeting at 12:00 noon on Friday, April 30, at the Arlington Hotel. Ted Burns, M.D., of Ochsner Clinic in New Orleans will speak on "Pre-Operative Evaluation for Esophageal Surgery: A Gastroenterologist's Viewpoint."

The Arkansas Chapter of the American Academy of Pediatrics will be guests of their president, John Trieschmann, M.D., for a buffet dinner at his home on Friday, April 30. Dr. Trieschmann's address is 124 Country Club Lane in Hot Springs. Academy members are asked to advise Dr. Trieschmann if they will attend.

Saturday, May 1

The Otolaryngology — Head and Neck Surgery Section of the Arkansas Medical Society will hold a scientific session beginning at 9:00 a.m. on Saturday, May 1, in the Arlington Hotel.

A luncheon beginning at 12:00 noon and a business meeting will follow the scientific session.

The **Arkansas Academy of Ophthalmology** will meet at 9:00 a.m. on Saturday, May 1, in the Arlington Hotel. Alex Irvine, M.D., Professor of Ophthalmology and Co-Chairman of the Department of Ophthalmology at the University of California School of Medicine in San Francisco, will be guest speaker. Dr. Irvine will make presentations on "Diabetic Retinopathy — Pathogenesis and Treatment" and "Vitreous Techniques for the Anterior Segment Surgeon." A business meeting and luncheon will follow the scientific session.

The **Arkansas Orthopaedic Society** will hold a luncheon meeting beginning at 12:00 noon on Saturday, May 1, in the Arlington Hotel. Tim Kennan, an Australian on fellowship with the Department of Orthopaedics at the University of Arkansas College of Medicine, will speak on "Sports Medicine." The Orthopaedic Society will have a business session following the scientific meeting.

The **Arkansas Urologic Society** will meet at 11:30 a.m. on Saturday, May 1, in the Arlington Hotel. Cocktails will be served, followed by a luncheon meeting. E. Darracott Vaughan, M.D., of Cornell University will be guest speaker. His presentation will be followed by a pyelogram session and a business meeting.

The **Arkansas Academy of Family Physicians** will meet at 12:00 noon on Saturday, May 1, in the Arlington Hotel. Sam Nixon, M.D., of Houston, immediate past president of the American Academy of Family Physicians, will be guest speaker. Dr. Nixon's subject will be "Health Promotion and the Family Physician." A business meeting will follow the scientific program.

The **Arkansas Psychiatric Society** will meet at 12:00 noon on Saturday, May 1, in the Arlington Hotel. Luncheon will not be served. Lionell Corbett, M.D., of Chicago will speak on "Differential Diagnosis of the Affective Disorders."

The **Arkansas Society of Internal Medicine** will meet at 12:15 p.m. on Saturday, May 1, in the Arlington Hotel.

The meeting program will be a roundtable discussion of "Avoiding Office Legal Problems." Ed Kelsay, Legal Counsel for the Oklahoma State Medical Association; Mike Mitchell, Legal Counsel for the Arkansas Medical Society; Charles F. Wilkins, Jr., M.D., of Russellville, and John Crenshaw, M.D., of Pine Bluff, will participate in the roundtable.

A business session will follow the program.

The **Plastic Surgeons** will hold a luncheon meeting on Saturday, May 1, in the Arlington Hotel. Cole Goodman, M.D., of Fort Smith, is in charge of the meeting.

The **Arkansas Society of Pathologists** will meet at 12:00 noon on Saturday, May 1, in the Arlington Hotel for a luncheon and business meeting.



Arkansas Medical Society Auxiliary

The 58th Annual Session of the Arkansas Medical Society Auxiliary will be held April 29-May 1 at the Arlington Hotel in Hot Springs.

Mrs. Raymond Peeples of Hot Springs is president of the Auxiliary. Mrs. C. Herbert Taylor of West Memphis will be installed as president during the convention.

The Auxiliary will have as special guests for the convention Mrs. J. Edward Hill of Hollandale, Mississippi (Chairman of the Health Projects Committee of the AMA Auxiliary) and Mrs. Keith Jones of Warrensburg, Missouri (President of the Southern Medical Association Auxiliary).

The meeting will open with a pre-convention board meeting at 2:30 p.m. on Thursday, April 29.

Auxiliary members will join Society members for a reception on Thursday evening sponsored by Arkansas Blue Cross-Blue Shield.

During the convention, breakfast meetings are planned with officers directing leadership studies. General sessions will be held on Friday and Saturday mornings, April 30 and May 1.

For Friday, April 30th, an 11:00 a.m. brunch is planned for the Auxiliary members in the Fountain Room of the Arlington Hotel. The brunch will be followed by a "Day of Beauty." Auxiliary members will take advantage of the Arlington's "Pamper Yourself" program with mineral baths, massages, facials, etc. Advance reservations will be required — watch for additional details and reservation forms in the Ark-MAP.

On Saturday, there will be a luncheon at the Hot Springs Country Club with an interesting program planned.

If there is sufficient interest, the Auxiliary convention chairman, Mrs. Deno Pappas of 125 Trivista Right, Hot Springs 71901, will make arrangements for groups to play tennis, golf, go antiquing, etc.

Auxiliary members are encouraged to attend the Society-sponsored western/casual party on Friday evening and the inaugural ceremony/reception on Saturday evening. Advance reservations will be requested for the Friday night party.

The Society's committee on Medicine and Religion will sponsor a Prayer Breakfast at 7:30 a.m. on Saturday and Auxiliary members are invited. The joint Society-Auxiliary Memorial Service will be held at 9:30 a.m. on Sunday, May 2.



Technical Exhibits

The business firms who purchase exhibit space at our Annual Session contribute a great deal to the financing as well as to the educational aspects of the meeting. The number of visits to the technical exhibits is the only criterion by which these companies can judge the value they receive from the investment in booth rental, displays and employees' time. You will be rewarded for the time you spend visiting the exhibits. Following are descriptions of displays to be featured.

SMITH KLINE & FRENCH

Smith Kline & French representatives will be on hand to answer your specific questions and to provide information on our products and services.

SAFEGUARD BUSINESS SYSTEMS

Our representatives will be on hand to discuss "One-Write" accounting systems, "Super Bill" and insurance claim forms for medical offices. Office Management manuals will be available.

A. H. ROBINS COMPANY

You are cordially invited to visit the A. H. Robins exhibit and meet our representatives who will welcome the opportunity to discuss products of interest with you.

HARPER SYSTEMS COMPANY

Telephones: Complete display of modern phone equipment by I.T.T. and other manufacturers.

Dictation: Latest models in portables and desk machines by Norelco and Sanyo.

DODSON INSURANCE GROUP

Dodson offers a proven service for physicians to reduce their cost for Workers' Compensation insurance. The Savings Plan has been in effect since 1973 with approval of the Arkansas Medical Society. Returns of premiums have ranged between 30% and 38% per year in seven of the past eight years.

ARKANSAS BLUE CROSS AND BLUE SHIELD, INC.

IN AND OUT SURGERY AND WE TALK BUSINESS. "In and Out Surgery" is the term used in promoting outpatient surgery benefits while "We Talk Business" relates to Arkansas Blue Cross and Blue Shield's services available to subscribers and providers of health care.

RATHER, BEYER & HARPER

Representatives of Rather, Beyer and Harper will have brochures and all information on the Arkansas Medical Society's Group Insurance Plans. The Income Protection Plan, which has been in effect since 1947, is now being issued on a guaranteed renewable basis. Income Protection Benefits are now up to \$2,167 per month. Records will be available so that each physician may review his insurance coverages and what he is eligible to apply for as a member of the Arkansas Medical Society.

BRISTOL LABORATORIES

You are cordially invited to visit Bristol Laboratories' exhibit. Our representatives at the booth welcome the

opportunity to answer your questions concerning the Bristol line of products featuring: Amikin® (amikacin sulfate); Bristoject® (Bristol Emergency Medication System); Cefadyl® (sterile cephapirin sodium); The Naldecon® Line (antihistamine decongestant)/EX Ped Drops/DX Ped Syrup/CX Suspension; Salutensin®/Salutensin-Demi™ (hydroflumethiazide, reserpine antihypertensive formulation); Stadol® (butorphanol tartrate); Tegopen® (cloxacillin sodium); and Ultracet™ (cefadroxil).

SOUTHERN MEDICAL ASSOCIATION

Southern Medical Association will have information available on membership in Southern Medical, the SOUTHERN MEDICAL JOURNAL, Annual Scientific Assembly to be held in Atlanta, Georgia, October 30-November 2, 1982, the SMA Insurance Program, On-site Leadership Seminars, Spouse Programs, the Dial Access System, and other services offered to SMA members.

MERCK SHARP & DOHME

Merck Sharp & Dohme cordially invites you to visit their exhibit featuring several products from their extensive line of pharmaceuticals. Representatives in attendance will be pleased to answer any questions you may have. Inquiries about our professional, informational, and educational services are welcomed.

AMERICAN PHYSICIANS INSURANCE EXCHANGE

API Group—The doctors' companies furnishing Arkansas doctors with the best in professional liability and life insurance—Plus non-insurance services included. Total in-office computer systems.

STUART PHARMACEUTICALS

STUART PHARMACEUTICALS welcomes members and guests to the Arkansas Medical Society. We extend a cordial invitation to visit our exhibit featuring displays and literature for our new beta blocker, TENORMIN® (atenolol).

Our representatives will be glad to answer any questions on STUART products and accept sample requests.

LINDE HOMECARE MEDICAL SYSTEMS, INC.

We will have a complete line of oxygen and therapy equipment for the patient in the home. Come by booth #18 and get full information from our representatives.

AYERST LABORATORIES

We will be promoting products that are promoted on a daily basis in the doctors' offices.

RENFROE-SMITH COMPANIES

For demonstration of the RichMar HighVolt Stimulator with Ultra Sound for pain control and rehabilitation, come by booth #20.

FIRST VARIABLE LIFE INSURANCE COMPANY

Specialists in the investment, design, and implementation of Pension and Profit Sharing Plans.

The Investment Accounts managed by First Variable continue to provide consistent above-average investment

results. Whether you want a guaranteed rate of return, a High Yield Bond Account, or a Common Stock investment, First Variable has the performance record.

Retirement Systems offers complete actuarial and plan administrative services on a fee-only basis.

Come by our booth and see how you can benefit from our experience.

MOUNTAIN VALLEY SPRING COMPANY

You are invited to visit booth #22 which will feature Mountain Valley Spring water.

UAD LABORATORIES, INC.

UAD Laboratories, Inc., will proudly display products which have been widely accepted in the State of Arkansas. This year we will feature the following: UAD CREAM; UAD CREAM LOTION — Dermatological use; VERTAB — Vertigo and Dizziness; ENDAL TABLETS — Allergies and Decongestant; AR-600 — Arthritis; and LORPAC — Pain.

DEAN WITTER REYNOLDS, INC.

Our representative will have investor information for stocks, bonds, etc.

WHITTAKER GENERAL MEDICAL

Our representatives will be in booth #25 to answer your specific questions and to provide information on our medical and surgical supplies.

NATIONAL MEDICAL RENTALS

Liquid oxygen systems needed in the home. Baby Watch Monitors. Literature on all services we provide for the home patient with our nine-store locations in Arkansas.

ARMOUR PHARMACEUTICAL COMPANY

Armour Pharmaceutical Company cordially invites you to visit our booth where the following products will be displayed: DDAVP®, Calcimar, and Nicobid. Product literature will be available.

HYREX PHARMACEUTICAL

Table-top display with product literature and details of products, Trac 2X, Hytinic, Hytinic Plus, Hytuss, Hytuss 2X, and Two-dyne capsules.

SEROYAL SOUTH CENTRAL

Come by booth #32 to see the BPI 420 Unit and to obtain samples of Seroyal products.

CUMMINGS X-RAY COMPANY, INC.

Newest, limited care and service, film processor — latest radiation saving film/screen combinations will be shown. Automatic ECG equipment will be demonstrated.

UNITED STATES AIR FORCE

Our representatives will have information about becoming an Air Force physician and the unique life style.

MEDICAL ASSISTANT PROGRAM

An audio-visual presentation of the Medical Assistant program of Arkansas Tech University. The medical assistant program is accredited by CAHEA-AMA and is an associate degree program which trains persons in all phases of the administrative and clinical duties of the medical office.

CIBA PHARMACEUTICAL COMPANY

The Ciba booth will be on space-age medicine. Our representatives will be on hand to discuss our featured products — Transderm®-Nitro and Transderm®-V.

UNITED STATES ARMY

Physician Placement Service for the entire U.S. Army Medical Department. We will be providing information about the Health Professions Scholarship Program for medical students, about internship/residency/fellowship opportunities, and the plethora of placement opportunities for physicians in all specialties.

LEDERLE LABORATORIES

Lederle Labs will be displaying information on Pipracil — a unique new penicillin with broad coverage against major pathogens causing serious infections. Also available will be information on Asendin, the unique rapid acting anti-depressant.

ADRIA LABORATORIES

Our representatives will have information on Kaon-CL 10, Modane, Myoflex, and Magan. Come by booth #26 for answers to your questions about our products.

W. B. SAUNDERS COMPANY

Copies of recent medical texts and references for all specialties of medicine will be on display at Booth #4.



House of Delegates Business Affairs

Business items printed below are brought to the attention of individual members and the county medical societies. The items reported here represent those received in time for publication in advance of the meeting. All reports will be referred to reference committees. Members are urged to attend the open hearings of the reference committees to express their views. Reference committee hearings are scheduled for 2:30 p.m. on Thursday, April 29.

OLD BUSINESS

The following proposed changes in the Society Constitution and Bylaws were approved by the House of Delegates on first reading in April 1981. If approved by the House of Delegates at the 1982 meeting, the changes become effective at that time.

Constitution. Article VI. Council Section 3. Executive Committee

The chairman of the Council, the president, the president-elect, the secretary, and *the immediate past president* shall constitute the Executive Committee of the Council. The Chairman of the Council shall serve as Chairman of the Executive Committee. The Executive Committee shall have such powers and duties as provided in the Bylaws and as may be defined from time to time by resolution of the Council.

(Note: The words in *italics* are additions to this section.)

Bylaws. Chapter V. Election of Officers Section 1. Nominating Committee

(A) Prior to adjournment of the first meeting of the House of Delegates at each Annual Session, the delegates from the component societies of each councilor district shall meet, the councilor not subject to re-election acting as chairman, and select one delegate from each district to form a committee on nominations. This committee shall consist of ten delegates, one from each councilor district. It shall meet and organize by selecting a chairman and a secretary. It shall be the duty of this committee to consult with members of the Society and to hold one or more meetings at which time the best interest of the Society and of the profession of the State for the ensuing year shall be carefully considered. The committee shall report

the result of its deliberations to the (delete: House of Delegates) *headquarters office no later than February 1* in the shape of a ticket containing the names of two or more members for the office of president-elect and of one member for each of the other offices to be filled at (delete "that") *the* Annual Session. No two candidates for president-elect shall be named from the same county.

Delete: (B) The report of the Nominating Committee shall be the first order of business of the House of Delegates, after reading of the minutes, on the last day of the Annual Session. CHAPTER V. Section 5. (Election of Officers)

The election of officers shall be the (delete: "second") *first* order of business of the House of Delegates on the last day of the Annual Session.

(Note: Words in *italics* are additions to the present section.)

NEW BUSINESS ANNUAL COMMITTEE REPORTS Committee on Cancer Control

John R. Broadwater, M.D., Chairman

The Committee on Cancer Control of the Arkansas Medical Society has had no activity or meetings during this time interval.

At the time of our last meeting in 1980, it was indicated that this Society should support efforts to encourage the establishment of a State Tumor Registry, as the State Health Department had discontinued the existing State Tumor Registry. At the current time the American Cancer Society, Arkansas Division, has formed a committee, the Cancer Program Committee, to encourage the establishment of Tumor Registries throughout the State. It is anticipated that these two committees will work together in establishing that goal.

I anticipate that during this year this will be the primary thrust of my committee.

Committee on Medical Legislation James R. Weber, M.D., Chairman

The 1981 regular session of the Arkansas General Assembly and one short special session were completed last year. A complete report of legislation passed during the regular session was mailed

out by the Society office following the session. This information included acts of interest to physicians as well as information concerning some bills that were considered but were not passed.

During the special session held just before Thanksgiving, the only proposed legislation of interest to medicine pertained to the regulation of ambulance service. Just prior to the meeting of the Legislature, the Council of the Society had an opportunity to hear about the proposed legislation. At that time, the Council requested that Governor White ask that this legislation be pulled down because interested parties such as physicians had not and would not have time to adequately consider the full ramifications of this legislation in the special session.

On the Monday morning following the Council meeting, the several people sponsoring this bill met with Dr. Elvin Shuffield, your chairman, Mike Mitchell, and Ken LaMastus to remove medicine's objections from the bill. Negotiations concerning the bill went on for over a period of two or three days and all attempts were made to remove all of medicine's objections from the bill. This legislation was passed on the last day of the session; however, it does not affect any community with a population of less than 50,000.

As in years past the "Physician of the Day" program, utilizing volunteer physicians from all over the State to provide services at the Capitol, was a tremendous public relations program for medicine. This program not only benefits those individuals receiving care by the physicians, but also allows the physicians to meet and talk with their legislators and see their State Legislature in action. I would like once again to thank all those physicians who participated in the program for all their good work.

Prior to the last general election in 1980, there was a considerable increase in physician participation in campaigns and the election process. It was evident during this legislative session that our legislators and other elected officials were aware of this and the physicians of Arkansas are to be commended.

I very strongly encourage all physicians in this election year to support the candidates of their choice.

Sub-Committee on National Legislation **W. P. Phillips, M.D., Chairman**

The emphasis of the present Federal Administration on reduced spending has resulted in a

moratorium on new legislation in the health field. This will likely continue for new programs and may result in continued cutbacks in Federal health spending. Since 1982 is an election year, it is unlikely we will see any programs in Congress costing the voters money.

If drastic changes occur, they will probably be in the area of cost containment. A wide variety of proposals have been advanced and will bear close scrutiny in the months to come.

This Sub-Committee is charged by the Council with arranging the Congressional visitation which has been so well accepted by our Senators and Congressmen the past several years. This past year, the President, President-elect, Chairman of the Council, Executive Vice President and Associate Executive Vice President of the Medical Society, the Chairman of this Sub-Committee, and the Chairman of ARK-PAC were in Washington for two days of visits. This gave us the opportunity to discuss activities and proposed programs with all members of the Arkansas Congressional delegation.

Committee on Continuing Medical Education **John M. Hestir, M.D., Chairman**

The Committee on Continuing Medical Education is responsible for surveying and re-surveying organizations and institutions for accreditation of their continuing medical education program under the guidelines established by the national organization, the Accreditation Council for Continuing Medical Education.

During the past year, two new institutions received their initial survey for accreditation and received two years provisional accreditation. Two years provisional accreditation is the longest period of accreditation that can be granted on an initial survey. The two institutions receiving such designation were Baxter General Hospital in Mountain Home and Arkansas Children's Hospital in Little Rock.

There are currently seven other organizations which are presently functioning under a four year accreditation through the Society. They are: Baptist Medical Center in Little Rock; Arkansas Medical Society Committee on Scientific Programs; the Arkansas Academy of Ophthalmology; St. Joseph's Regional Health Center, Hot Springs; Memorial Hospital, North Little Rock; St. Vincent Infirmary, Little Rock, and Veterans Administration Medical Center in Fayetteville.

The Accreditation Council for Continuing Medical Education (ACCME), which is the national organization that establishes guidelines, has recently developed new Essentials for Accreditation of Sponsors of Continuing Medical Education and they have now been approved by all seven ACCME sponsoring organizations which includes the American Medical Association.

Because these essentials are rather broad and, in some cases, open to interpretation, the AMA House of Delegates mandated that the essentials not be implemented until the accompanying handbook has been approved by all of the sponsors. The handbook will serve as an informal aid to CME sponsors and surveyors to aid them in interpreting the single uniform set of essentials as they apply to differing circumstances and locations, particularly as they apply to different sizes of institutions.

With the new essentials for accreditation developed by ACCME, the Arkansas Medical Society will still have the responsibility for performing surveys and making decisions on the accreditation of intrastate institutions and organizations. The University of Arkansas, as well as other medical schools and some organizations that are national in scope, is accredited directly by ACCME at the present time and will continue to be accredited in this manner. Since the Area Health Education Centers are part of the University of Arkansas College of Medicine they are accredited through UAMS in their national accreditation.

The accreditation program in Arkansas has resulted in thousands of hours of Category I continuing medical education programs being offered to physicians across the State at very little or no cost. Appreciation should be expressed to each of those organizations that have shown the initiative to develop quality continuing education programs that are worthy of accreditation.

Annual Session Committee

Paul Wallick, M.D., Chairman

The Annual Session Committee selected "Preventive Medicine for the 80's" as the theme for the scientific program at the 1982 convention. The program schedule is presented elsewhere in this issue of the Journal.

In December, the committee met to review the convention format and make revisions appropriate for the change in the days of the week of the meeting. The Society president, Dr. Purcell

Smith, and one of the fifth district councilors, Dr. Cal Sanders, participated in the discussion. The Annual Session Committee considered the report of an ad hoc committee on the annual convention and voted to implement some of the suggestions of the ad hoc committee. Some revisions in the convention schedule were made by the Annual Session Committee. It was decided to forego a president's banquet in favor of an inaugural ceremony and Council-hosted reception.

In accordance with the system of rotating responsibility for some of the convention functions among the ten councilor districts, the fifth councilor district agreed to handle arrangements for the Memorial Service and the new project of hosting chief residents from the Medical Center. In an effort to acquaint the residents with the Medical Society, the chief resident of each department at the Medical School will be invited to participate in convention activities and will be hosted by a Society member in the resident's specialty.

Dr. J. Larry Lawson of Paragould has served as chairman of the Scientific Exhibits and has arranged a varied display which should be of interest to all members.

Your chairman recommends that the Society consider revision of the approach to planning the scientific program for the Annual Session. Under the system which has been followed, specialty groups are given an opportunity to recommend speakers for the general session program. With such a system, it is difficult to adhere to a selected theme. The selection of speakers and topics is really not under the control of the program committee. It is very difficult for the program committee to arrange a coordinated scientific program which it feels will be of interest to the membership. Your chairman feels that a better job could be done on the scientific program with more leeway in the scheduling of speakers.

Committee on Insurance

Charles F. Wilkins, Jr., M.D., Chairman

The Insurance Committee held a conference call on January 28, 1982, referable to a proposal for a new disability policy which has been made by Mr. Foss of the Prudential Insurance Company. At the present time, the disability policy is carried through Rather, Beyer and Harper as it has been for some 35 years.

After reviewing some of the data, it was felt that there was insufficient information to make

a recommendation; therefore, the Insurance Committee plans to meet on the first day of the annual meeting in Hot Springs and have a representative of each insurance company appear with the policies themselves in hand and these will be reviewed.

Committee on Medicine and Religion

Fred O. Henker, III, M.D., Chairman

Another Prayer Breakfast was conducted at the annual convention featuring Dr. Joe Norton as principal speaker. This meeting was carried out at no expense to the Society. The Prayer Breakfast is becoming an established tradition.

On October 10th, a Medicine-Religion Symposium was held at the University of Arkansas for Medical Sciences amphitheater attended by sixty participants. Under the topic "Physician and Minister — What We Expect From Each Other," Carl Wenger, M.D., and Allen Ward, Ph.D., as keynote speakers, were both capable and well received. By keeping the budget as low as possible, the meeting was conducted at no cost to the Society except a notice mail-out and the registration fee was kept at an insignificant minimum. Merck Sharp & Dohme contributed a grant of \$250.00. This year, use was made of liaison with the Interdenominational Executive Roundtable and Baptist State Convention in formulating plans and handling publicity for the symposium to increase in interface between the two professions.

Plans are under way for another Prayer Breakfast Saturday morning, May 1, at 7:30, at the annual meeting in Hot Springs.

Committee on Aging

Chalmers S. Pool, M.D., Chairman

The Committee on Aging met and discussions followed which included, in particular, the acceptance and utilization of hospice in the care of elderly patients. We feel that this would add to the overall care of patients in this State where the need exists for this approach to their care.

Other supportive measures would and should include any coverage that would work toward the better care of our rapidly increasing aging group of patients.

Constitutional Revisions Committee

A. S. Koenig, Jr., M.D., Chairman

During the 1981 Annual Session, the Council referred to our committee for study the question

of possible conflicts in the Constitution and Bylaws regarding component society representation in the House of Delegates. The committee proposes the following change in wording of sections of the Constitution to eliminate any possible conflict.

ARTICLE IV. Constitution. Section 3.

Delegates

Delegates shall be those members who are elected *or seated* in accordance with the Constitution and Bylaws to represent their respective component societies in the House of Delegates of this Society.

ARTICLE V. Constitution. House of Delegates

The House of Delegates shall be the legislative body of the Society, and shall consist of (1) delegates elected by the component societies *or seated by the House of Delegates to represent component societies* as provided in these bylaws; (2) the councilors, and (3) ex-officio, the president, first vice president, president-elect, speaker, vice speaker, secretary, treasurer, and past president of the Society, provided, however, that the ex-officio members shall have the power of voting on all subjects except the election of officers.

This committee was also directed to study the question of having component society delegates serve for the calendar year and having delegate representation determined by the membership of the component society at the end of the previous year. It is the recommendation of the Constitutional Revisions Committee that there be no change in the sections of the Constitution and Bylaws which provide for delegate representation on the basis of the current year's component society membership. The present provisions assure that each component society will be entitled to maximum representation.

The House also requested that this committee study provisions of the Constitution and Bylaws which determine delegate representation for those component societies of multiple counties. The Bylaws provide that "each regular county society" shall be entitled to delegate representation. The Constitutional Revisions Committee recommends that no change be made in the Constitution and Bylaws. The Committee suggests that, in those instances where there are multiple counties making up a component society, separate component society organizations be established for each

county so that each county may be represented in the House of Delegates. Such county societies could continue to hold joint meetings as they have in the past, but would have separate officers and delegates.

At its November 1981 meeting, the Council requested that this committee draft proposed amendments to the Constitution and Bylaws for consideration of the House to extend membership to osteopaths. The committee presents the following proposal to comply with the direction of the Council:

BYLAWS. CHAPTER I. Membership

(A) Active Membership

The active membership of this Society shall be comprised of all the active members of its component societies. Only such person is eligible for active membership in a component society as possesses the degree Doctor of Medicine or Doctor of Osteopathy and holds an unrevoked license to practice medicine and surgery issued by the (delete: Board of Medical Examiners which consists of members recommended by this Society) *Arkansas State Medical Board*. The eligibility requirements set forth in the preceding sentences are not to apply, however, (delete: to members in good standing in any component society at the time of the adoption of this section. Adopted, House of Delegates, 1961 Annual Session, nor) to the members of the specially chartered "Student and Intern and Resident Societies.

(Note: Words in *italics* are additions to present sections.)

The reference to the 1961 modification is being deleted because it is now redundant. There is no longer either an Eclectic Licensing Board or an Osteopathic Licensing Board. All physicians are now licensed by the Arkansas State Medical Board.

Committee on Position Papers

James M. Kolb, Jr., M.D., Chairman

The Position Papers Committee has become a permanent committee of the Council of the Arkansas Medical Society by its action in April of 1981.

The House of Delegates approved the following papers in April of 1981: *Alcohol and Drug Abuse, Continuing Medical Education, Highway Safety, Impaired Physician, Physician Extenders.*

The Papers Committee has drafted, submitted, and had approved by the Council the following papers: *Acupuncture, Cost of Health Care, Health Education of the Public, Home Health Care, Hospice, Laetrile, Professional Advertising by Physicians.*

Ad Hoc Committee on Medicine-Business Coalition

Purcell Smith, Jr., M.D., Chairman

In 1978, the American Medical Association took the initiative in addressing the problem of increases in health care costs, and sponsored an eighteen-month study by an independent national commission on the cost of medical care. Following publication of the commission report, American Medical Association began a corporate visitation program that resulted in visits with executives from one hundred of the country's largest corporations. This communication was felt to be very productive, and resulted in the recommendation that state and local medical societies establish similar contacts with businesses in their areas. Approximately twenty or thirty medicine-business coalitions have come into existence in the last two or three years, with several others in various stages of planning. These coalitions have been formed in an effort to assure delivery of quality health care in a cost effective manner.

At the annual meeting of Arkansas Medical Society in April 1981, the Council authorized the formation of an Ad Hoc Committee on Medicine-Business Coalition to contact representatives of business in the State of Arkansas and explore the feasibility and advisability of a medicine-business coalition with Arkansas Medical Society as a participant. The committee has met on several occasions and has had the benefit of a visit with Dr. John Baker, who is serving as Executive Director of the Arkansas Commission on Health Care Cost Effectiveness. The committee feels that contacts with representatives of business regarding delivery of quality health care in a cost effective manner will be mutually advantageous to business and to health care professionals. At the writing of this report, the committee is in the process of contacting representatives of some of the larger employers in the State, in an effort to stimulate interest in a preliminary meeting to discuss mutual problems. Possibly a medicine-business coalition will result from these efforts. At this time, there has been no expense to Arkansas Medical Society. However, if the effort is

pursued, there would be some expense both to the Medical Society and to the businesses.

Medical Services Review Committee

Charles F. Wilkins, Jr., M.D., Chairman

The Medical Services Review Committee continues to meet on the fourth Wednesday afternoon of each month in the Board Room of Arkansas Blue Cross and Blue Shield, Little Rock, and takes up matters brought to the Committee by the medical director of Blue Cross and Blue Shield referable to Medicare and Blue Shield regular business.

During the past summer, a new activity was undertaken by the Committee. A clinic in south Arkansas was having some problems referable to Medicare regulations regarding documentation of hospital visits. A Fair Hearing was held and Dr. Charles H. Rodgers of Little Rock and Dr. Paul A. Wallick of Monticello, family practice representatives on the MSRC, appeared along with the chairman as witnesses. Their testimony was instrumental in a conclusion in favor of the practicing physicians.

The chairman would like to point out to all practicing physicians the importance of documentation of hospital visits in some manner. Spot checks have suggested that only about fifty percent of hospital visits by physicians in the State of Arkansas can be documented from the chart. It is important that some type of order, notation or nurse's note indicates that the physician was actually present. This Medicare regulation has been in place for a long period of time, but has been overlooked by many physicians.

Seventh Councilor District

Professional Relations Committee

C. F. Peters, M.D., Chairman

In the year of 1981, the Seventh Councilor District Professional Relations Committee is pleased to report that no cases were brought before it.

State and Eighth Councilor District

Professional Relations Committee

Richard M. Logue, M.D., Chairman

As you know, for the past many months our committee has been involved in a certain situation in Harrison, Arkansas, which required considerable investigation and review by the chairman, as well as a select committee from our State-wide panel. The results of this investigation were reported to the Executive Committee of the Ar-

kansas Medical Society at the annual meeting held at the Camelot Hotel in Little Rock. Certain recommendations were tendered and I assume that this problem has been resolved.

The Eighth District Committee has also been instrumental in attempting to resolve a local situation here in Little Rock and, not having had any further correspondence from the son of the patient involved since receiving a copy of a letter addressed to Senator Dale Bumpers, dated November 19, 1981, I assume that matter has now been resolved.

I am happy to report that, with the exception of these two incidents, no other official action of our committee has been required.

Ninth Councilor District

Professional Relations Committee

Charles A. Ledbetter, M.D., Chairman

The Ninth Councilor District Professional Relations Committee responded to two complaints in the period from April 1981. Both complaints involved the surgical treatment of cancer. Both of these complaints were thoroughly investigated and resolved by the Committee.

Tenth Councilor District

Professional Relations Committee

S. E. Landrum, M.D., Chairman

Since the previous report, the Tenth Councilor District Professional Relations Committee has evaluated two complaints relative to two different doctors. One dealt with termination of service for a patient, and it appeared that the physician involved was justified in such action and did so in a fine, professional and ethical manner. The second was a concern of a third party payer about the fee of a physician, and it was felt that the fee was within a suitable range. This was concluded satisfactorily for the patient and the physician.

Fifth Councilor District

George W. Warren, M.D., Councilor

Cal Sanders, M.D., Councilor

The Fifth Councilor District Medical Society met at the El Dorado Golf and Country Club on Wednesday night, January 20, 1982. As has proven customary in the past several years, our meeting night was attended with less than favorable weather which did decrease our attendance. We were fortunate in that Dr. Harry Ward, Chancellor of the Medical School in Little Rock, was our guest speaker. The meeting was, how-

ever, reasonably well attended with representatives from Warren, Camden, Magnolia, and El Dorado being present. The social hour was enjoyed by all.

In the business course, the Senior Councilor gave a report on activities of the Council including a discussion of the proposed Councilor Redistricting Plan. After the plan was explained, some questions were answered and discussion ensued. A motion was made, seconded and unanimously voted to oppose in its entirety the concept of redistricting. In the discussion that followed, it was pointed out that the Fifth Councilor District has had an annual meeting and an annual election of officers. In a district such as has been proposed, there would be no way that an annual meeting would be feasible. The Fifth Councilor District, therefore, goes unanimously in support of retaining the current councilor district with allowances in the form of more councilors, if necessary, for the more populous areas.

Dr. John Alexander of Magnolia was elected president. Dr. Ray Bowman of El Dorado was elected secretary, and Dr. Cal Sanders of Camden was elected to be nominated to the House of Delegates as councilor for another two-year term. Dr. Harry Ward made an interesting presentation as to the current status of the various educational programs at the University of Arkansas for Medical Sciences institution.

Tenth Councilor District

Charles F. Wilkins, Jr., M.D., Councilor

No meeting of the Tenth Councilor District was held during the year of 1981.

Report of the Council

John P. Burge, M.D., Chairman

The Council of the Arkansas Medical Society met on Sunday, July 12, 1981, at the Camelot Inn in Little Rock and transacted the following business:

1. Considered the experience rating report on the Blue Cross-Blue Shield group plan for Society members. The Council voted to write participants in the plan advising of the necessity for a 39% rate increase and possible plan changes for reduction in premium, stating that the plan will remain as is unless those enrolled request a change.
2. Executive Vice President Long presented to the Council a statement of expense incurred

by legal counsel from date of filing of Nurses' lawsuit to June 4, 1981, in the amount of \$4,456.40. The Council voted approval for payment of the fee.

3. The Council approved the recommendation of the Executive Committee that no winter meeting be held in 1981.
4. The Council approved the recommendation of the Executive Committee that the president-elect's in-state travel expenses be paid for meetings attended with component medical societies and other necessary meetings.
5. Chairman Burge reported that the Ad Hoc Committee on Hospice had not yet met and would be asked to report at a later date. He also reported that T. E. Townsend had been named chairman of the Board of Trustees of the Society Pension Plan and that the Trustees had requested that their report be delayed until a later meeting.
6. Chairman Burge reviewed the directive of the House of Delegates that the Council redistrict itself prior to the annual spring meeting in 1982 and a resolution from the Sebastian County Medical Society directed to the Council on this subject. The Council voted disapproval of the Sebastian County resolution. The Council voted to appoint an eleven-man committee consisting of the first vice president as chairman and the ten senior councilors from each district to study councilor redistricting and report back to the Council with its recommendations. The Committee consists of:
 - Frank Morgan, North Little Rock,
Chairman
 - Merrill J. Osborne, Blytheville
 - John E. Bell, Searcy
 - L. J. Pat Bell, Helena
 - John P. Burge, Lake Village
 - George W. Warren, Smackover
 - C. Lynn Harris, Hope
 - Robert F. McCrary, Hot Springs
 - W. Ray Jouett, Little Rock
 - Rhys A. Williams, Harrison
 - Charles F. Wilkins, Russellville
7. Milton Deneke, chairman of the Public Relations Committee, presented the report of his committee on public relations projects proposed. He presented the following recommendations:

- (A) that a lay-person award be presented each year at the annual session to a deserving individual for outstanding work in the health care field; component societies would submit nominations and the Public Relations Committee would select the individual to be honored. The cost was estimated at approximately \$800 per year.
- (B) that the Society sponsor public relations seminars for personnel in the front office of physicians. The committee proposed seven seminars conducted by the staff of the American Medical Association for locations and dates as follows: Little Rock, September 22; Little Rock, September 23; El Dorado, September 24; Fayetteville, October 13; Fort Smith, October 14; Jonesboro, October 15, and Russellville, November 14. The committee recommended that a registration fee of \$15 be charged for the seminars and that the Society underwrite the remainder of the cost (estimated at approximately \$2,860 for all seven seminars).

The Council voted:

- (A) to approve the plan for an award to a lay person;
 - (B) to approve conducting the proposed two seminars in Little Rock with a \$15 registration fee and the remaining cost underwritten by the Society; if the two seminars are not well received, there will be no seminars conducted in other areas. The Council requested that letters announcing the seminars contain a statement that the Society is paying a part of the cost for this public relations project as a benefit of membership. It was agreed that an invitation for participation in the Little Rock seminars would go to all members of the Society, not just the central Arkansas area.
8. The Council voted to send a letter of commendation to the Arkansas Hospital Association for its public relations project of radio announcements concerning cost containment.
 9. The Council voted not to contribute to the program for the Development of Humanities at the University of Arkansas College of Medicine.

10. The Council voted to reappoint Joe Rushton to the Board of Directors of the Medical Education Foundation for Arkansas if the physician is willing to serve again in that capacity.
11. President Smith discussed the possible formation of a medicine-business coalition for the State. He proposed the appointment of an ad hoc committee to consider in what manner, if any, the Society should participate in a business-medicine coalition or a similar cost-containment project. The Council voted approval of the appointment of the ad hoc committee and requested that the committee report back to the Council at the next meeting, if possible. It was agreed that the committee would be appointed by the Society president.
12. C. R. Ellis discussed the recipient "lock-in program" of the Arkansas Department of Human Services, whereby Medicaid recipients have their cards stamped "lock-in" to certain providers for a three-month period. The Council voted to go on record as indicating it does not approve of the principle of lock-in; that it is up to the individual physician to decide whether or not to participate in such a program.
13. The Council approved a policy statement on advertising by physicians. The statement is as follows:

PROFESSIONAL ADVERTISING BY PHYSICIANS

General Information

Traditionally, the individual states have, in the exercise of their police powers, regulated advertising by physicians and other professionals. Within the last several years, however, the U. S. Supreme Court has decided that overly tight restrictions on professional advertising impermissibly infringe upon the professional person's First Amendment rights of freedom of speech. The Court has emphasized, however, that its holding does not mean that advertising cannot be regulated in any manner. The Court specifically stated that advertising which is false, deceptive or misleading is subject to restraint.

The definite trend in the state legislatures regarding professional advertising today is in line with the Supreme Court's emphasis on the importance of not restricting the dissemination of

information which assures "informed and reliable decision-making" by the public.

Long-standing AMA policy on physician advertising, established and enunciated before the decisions of the U. S. Supreme Court on this issue, provides that *there is no opposition to advertising* (including fee information), but only to solicitation and to false, deceptive and misleading advertising. Advertising in an appropriate fashion may provide useful information to the public.

Principles

Advertising by physicians must be truthful, relevant and must be disseminated in an objective and understandable fashion. It must not appeal to fear and greed, may not be used to exploit patients and the public, and may not include extravagant claims of cures or in any other way appeal to the anxieties and vanities of the public.

The media used in advertising must be available to all physicians on like conditions. Electronic media such as radio and television is discouraged. The use of such electronic media is discouraged because of the transitory nature of the communication, the inherent emphasis of style over substance and the difficulty of monitoring and enforcing compliance with ethical standards. Advertising by billboards, handbills and unrestricted mailings to the non-physician, non-patient public is not acceptable.

Arkansas Medical Society Position

The purpose of any advertising by physicians must be solely to bring pertinent information to the public. The principles and rules relating to advertising by physicians do not proscribe advertising; they do, however, proscribe the dissemination of false or misleading information and the solicitation of patients.

GUIDELINES

A. *Acceptable Information*

The following information may be included by physicians who choose to advertise in media as permitted in Section C:

1. Name. May include name of partnership or professional corporation and the names of other physicians therein.
2. Addresses and telephone numbers.
3. Date and place of birth.
4. Date and place of license to practice medicine.
5. Schools attended with dates of graduation and degrees.
6. Board certification in a particular field of

medicine included in the AMA Specialty Designations and/or a statement that the physician practices in or limits his practice to one or more of those fields of medicine included in the AMA Specialty Designations.

7. Foreign language ability.
8. A statement whether credit cards or other credit arrangements are accepted.
9. Office and other hours of availability.
10. Fee information limited to the following:
 - a. Fees charged for an initial consultation
 - b. Fixed fees for specific medical services
 - c. The availability upon request of a written schedule of fees to be charged for specific medical services

The above information must disclose all variables and other pertinent facts that might affect such fees and, if so advertised, the services must be provided for no more than the advertised fee.

B. *Unacceptable Information*

The following information may not be included by physicians who choose to advertise in media as permitted in Section C:

1. False information regarding education, limitation of practice and/or board certification.
2. Claims related to quality of medical care provided. These factors are not susceptible to precise measurement or verification and could easily be misleading or false.
3. Testimonials.
4. Any statement calculated to appeal to patients' fears, vanities or hopes of cures that are unrealistic.

C. *Acceptable Media*

Information listed as being acceptable in Section A above may be used in the following manner so long as it is provided in a dignified form:

1. A professional card identifying the physician.
2. A professional announcement card stating new or changed addresses, phone numbers, associations, partnerships or professional corporations. Name or similar matters pertaining to the professional offices of a physician. These may be mailed only to physicians, patients, former patients, friends and relatives.
3. A sign on or near the door of the office and in a building or medical center directory identifying the physician. The information so provided is limited to name, address, phone number and nature of practice of the physician and

any associated partnership or professional corporation.

4. A letterhead identifying the physician.
5. A listing in a reputable medical directory. The published data should be in the format and language uniformly applicable to all physicians listed in the directory. In addition to the information listed in Section A, the following information may also be included:
 - a. Medical authorships
 - b. Medical teaching positions
 - c. Posts of honor
 - d. Membership, offices and committee assignments in medical societies and in other scientific and professional associations.
6. Other "print media" such as newspapers and other periodicals. It is again emphasized that such advertisements be done in a dignified manner and contain no information beyond that listed in Section A.

D. *Unacceptable Media*

Advertisements in the following media are discouraged:

1. Radio and television. Reasons for this are given in the section on Principles.
2. Billboards, handbills, sound trucks and random mailings to the public based on geographic location. The above forms of advertising would not be classified as being dignified.

* * * *

The Council met on Sunday, September 13, 1981, at the Camelot Inn in Little Rock and transacted the following business:

1. Purcell Smith announced the resignation of C. R. Ellis as councilor for the seventh district. Robert McCrary, senior councilor for the district, nominated Jerry Mann of Arkadelphia for the councilor position. Dr. Mann was elected by acclamation.
2. The Council voted approval of the report of the Executive Committee covering actions of August 6th and August 26th as follows:
 - (A) Any physician who applies for membership for the first year and who is first billed after July 1st will be billed at the rate of one-half of the annual billing. This was passed unanimously by the Executive Committee.
 - (B) Approved the third section of the PR program for medical office personnel to

be held in Little Rock on the Friday preceding the meeting in Russellville on Saturday (November 14th). The reason for this was that the two scheduled sections in Little Rock are filled.

- (C) Considered a request of the West Arkansas Health Systems Agency for the recommendation of two physicians. One physician is to be a fulltime private practice physician and Carolyn Wilson was recommended for this position. The second position was to be filled by a physician in private practice that had an association with formal education and it was recommended that James Buie of Fort Smith be the nominee for this position. Dr. Buie carried the designation of assistant clinical professor in the Department of Orthopaedics at the University of Arkansas College of Medicine.
- (D) Considered the request of the AMA to the State Society to do mailings to recruit non-AMA member physicians. As the deadline for this request was August 21st, it was felt the Executive Committee did not wish to make this decision but deferred this to the Council and requested that a letter be written to the AMA stating that their position relative to this activity would be determined at the September 13th meeting and that the AMA would be advised following that meeting.
- (E) Received the letter of resignation from C. Randolph Ellis as councilor of the Seventh Councilor District. The Executive Committee voted to contact the active Councilor from that district and request that he bring a recommendation from the Councilor District for consideration by the entire Council at the meeting on September 13th to fill this unexpired term.
3. Tom Smith, representing the Otolaryngology and Head and Neck Surgery specialty group, discussed the Medicaid policy requiring prior authorization for surgical procedures. The Council directed that a letter be written to Social Services stating the Society shares the concern for costs and the shortage of funds and recommends that all requirements for

prior authorization be reviewed and removed as soon as economically possible.

4. The Council voted not to participate in a project of the American Medical Association on membership recruitment.
5. Joe Verser, secretary of the State Medical Board, discussed the requirement for a year of internship or residency in a United States Medical School affiliated hospital by graduates of foreign medical schools to qualify for a license to practice medicine in the State. The Council voted to go on record as opposing any change in the requirement.
6. Purcell Smith reported that F. E. Joyce, Charles W. Logan, Cal R. Sanders, Kemal Kutait, and Lloyd Langston had been appointed to serve with him on the ad hoc committee on a medicine-business coalition. He reported on the first meeting of the committee.
7. Milton Deneke, chairman of the Public Relations Committee, reported on the excellent response to the seminars for personnel in physicians' offices. He reported that a third seminar has been scheduled for Little Rock because the two initially scheduled could not handle all registrants, and that all other seminars had reached maximum enrollment.
Dr. Deneke also suggested that the Society consider sponsoring practice management seminars and business computers seminars in the future.
8. The Board of Trustees of the Society Pension Plan reported to the Council. The report from the Trustees follows these minutes as a supplement to the minutes. The Council voted to instruct the Board of Trustees of the Pension Plan to go to the Defined Contribution plan. The Council instructed the Board of Trustees to take whatever steps necessary under law to implement this plan with the concurrence of our attorney.
9. The Council voted to confirm the following dates and locations for future meetings: April 18-21, 1985, Hot Springs; April 3-6, 1986, Little Rock, and April 21-24, 1988, Little Rock. The Council also voted to consider having the 1987 meeting in Fayetteville if the facilities there are adequate for the Society's annual meeting.

MINUTES, BOARD OF TRUSTEES, ARKANSAS MEDICAL SOCIETY PENSION PLAN

August 28, 1981

The pension plan Board of Trustees met by conference call beginning at 11:00 a.m. on Friday, August 28, 1981. The following matters were adopted or discussed.

1. For information purposes only, the members of the Board of Trustees wish to advise the Council that it has received information from Mr. Frank E. Scherr, Manager, National Investors Life pension administration, that the defined benefit plan (old plan), according to their predictions, will have an annual cost of 15.92% until the retirement of Miss Richmond at which time the old plan is predicted to cost 7-7½%. Under the defined contribution plan (new plan) there will be an 11% cost each year the plan is in effect. In addition, the Board wishes to call to the attention of the Council that it has voted to eliminate the CPI. Finally, in view of the Council action that no employee suffer loss of benefits because of the change to the new plan, additional monies likely will be needed above the 11%.
2. Leah Richmond and Patricia Williams are eligible for retirement after 35 years of service and before reaching age 65, thereby not actually receiving social security until they reach 65 years of age. The Board of Trustees voted to provide two-thirds of salary in the case of employees employed prior to October 1, 1978, who retire after 35 years of service prior to the time they reach age 65 without any deduction for social security. At such time as they are eligible for social security, the payment would then be reduced by an amount equal to 66% of the social security for which they are eligible. In order to fund two-thirds average monthly compensation at normal retirement date for Miss Richmond and Mrs. Williams after 35 years of service, an additional amount of money will be required.

Approved: T. E. Townsend, M.D.

Chairman, Board of Trustees

* * * *

The Council met on Sunday, November 22, 1981, at the Camelot Inn in Little Rock and

transacted the following business:

1. The Council voted to appoint an ad hoc committee to work with the Executive Committee in liaison with the State Departments of Health and Social Services.
2. The Council voted to ask the Constitutional Revisions Committee to draft proposed amendments to extend membership to osteopaths.
3. The Council voted to table the question of component society compliance with the State Society Constitution with regard to county/state membership.
4. The Council approved mailing of an AMA-ERF solicitation with a mailing from the headquarters office.
5. Frank Morgan reported for his Councilor Redistricting Committee, submitting two proposed redistricting plans for consideration of the Council and action by the House of Delegates. Bill Jones read minutes of the House action directing the "Council to redistrict itself." It was pointed out that changing the number of councilors would require amendment of the Constitution and Bylaws and the Constitution stipulates that the House shall decide councilor districts. The Council voted to request that counsel resolve this question and define what is the proper course of action.
6. The Council voted to authorize five physicians to attend the AMA Leadership Conference to be held in February 1982.
7. Walter O'Neal, Medical Consultant to the Arkansas Department of Social Services, discussed for the information of the Council a Long Term Care Assessment and Referral Project and Criteria for Determining Classification of Long Term Care Medicaid Recipients.
8. The Council voted to purchase Professional Association Liability insurance coverage with a \$500,000 limit on Section I liability and \$50,000 on Section II liability (Defense claim expense for anti-trust, price-fixing or restraint of trade actions).
9. The Council approved the appointment of Jim Lytle to the Budget Committee for a term beginning January 1, 1982, and ending December 31, 1985, and designation of Rhys Williams as chairman of the Budget Committee for the ensuing year.
10. Legal Counsel Mike Mitchell reported for the Board of Trustees of the Pension Plan. He advised the Council that documents had been filed with the Pension Benefit Guaranty Corporation and the Internal Revenue Service to terminate the defined benefit retirement plan for Society employees. A preliminary response from the PBGC indicated that there were some deficiencies in the filing prepared by National Investors. Mr. Mitchell also reported that the Board of Trustees is studying the proposed document for the new defined contribution plan for Society employees. The Board has authorized Mr. Mitchell to consult with the Rose law firm in Little Rock on a review of the provisions of the proposed plan. No action was taken by the Council on the report from the Board of Trustees.
11. The Council voted to approve the proposed Society operating budget for 1982. There were four votes against approval.
12. The Council voted to direct the Budget Committee to:
 - (A) determine a reasonable level for Society cash reserves, and
 - (B) determine a formula for determination of annual dues to prevent the reserves from exceeding that level.
 - (C) report to the Council for action so that it may be included in the 1983 budget.
13. The Council voted approval of appointment by the Chairman of a long range planning committee of the Council to work with and make recommendations to the Budget Committee.
14. The Council voted to place a limitation on the agenda for Council meetings. Any item of business to be included on the meeting agenda must be received in the headquarters office at least five working days prior to the meeting date.

* * * * *

The Council met on Sunday, January 31, 1982, at the Camelot Inn in Little Rock and transacted the following business:

1. Ben Saltzman, Director of the Health Department, asked that the Council recommend to the State Health Coordinating Council that there be a six-month moratorium on certification of health agencies in Arkansas. The

Council voted to go on record in favor of the moratorium.

2. Heard George Mitchell of Arkansas Blue Cross-Blue Shield discuss the statement adopted by the BC/BS Board endorsing the process of rational health planning and lending its support for a strong and effective state health planning agency. The Council voted to go on record as stating that the Society would like to be actively involved as a group in any state health planning.
3. Lloyd Langston was appointed chairman of a Council committee to study the request from Health Management Associates regarding its contract with the Department of Correction. Dr. Langston presented the following report for his committee:

After discussion with Legal Counsel Mike Mitchell, the committee makes the following recommendations:

- (A) Letter to Dr. Henderson commending his work and overall program;
- (B) Recommend that he continue to follow the AMA guidelines on prison medicine;
- (C) Recommend that Health Management Associates contact the Arkansas Foundation for Medical Care to negotiate either patient care audits or overall health care audits;
- (D) That the State Medical Society take no official active part in the program due to legal liability incurred in such activity.

The report was received for information.

4. James M. Kolb, Jr., Chairman of the Position Papers Committee, presented the following position papers for approval of the Council:

Acupuncture
Cost of Health Care
Health Education of the Public
Laetrile
Home Health Care
Hospice
Chiropractic

The Council approved all position papers listed above with the exception of the one on Chiropractic. The paper on Chiropractic was referred back to the committee. The position papers as approved follow these minutes.

5. Frank Morgan, chairman of the Council Redistricting Committee, reported for his com-

mittee. He moved adoption by the Council of a proposed redistricting plan as drafted by Lynn Harris.

On call for a quorum count, it was determined that there were not enough voting members present to constitute a quorum.

ACUPUNCTURE

General Information

The renewed focus of attention on the Orient during recent years has brought with it an interest in the practice of traditional Chinese medicine, particularly acupuncture. This technique, which dates back more than 2,000 years, involves the insertion of thin needles into various points of the body and claims results as an anesthetic, as a means of relieving pain, or as a cure for various ailments. After the acupuncture needles, which are up to three inches long, are inserted into the skin, they are twisted, vibrated, moved up and down or electrically stimulated, depending on the treatment.

The potential hazards of using acupuncture include (1) use in patients with pain problems without proper diagnostic studies to determine the cause of pain, (2) introduction of infection, (3) the accidental puncture of inappropriate areas with resultant complications, and (4) mental trauma.

Applicable Laws and Regulations

The present interpretation of Arkansas law is that since acupuncture involves penetration of the skin, it constitutes the practice of medicine. Therefore, a person performing acupuncture must be licensed to practice medicine.

Arkansas Medical Society Position

The Arkansas Medical Society believes that acupuncture is not a proven method of therapy. If acupuncture is to be performed, especially for the relief of pain, a diagnosis must be established and, since acupuncture is still an experimental procedure in Western medicine, all the regulations that pertain to the conduction of an experiment on a human being should be observed. These include securing informed consent, telling the patient of alternative and available methods of treatment, permitting the patient to withdraw from therapy at any time he wishes to do so, and finally, reporting the results of acupuncture treatment through reputable channels, such as medical journals.

COST OF HEALTH CARE

General Information

During the decade of the 70's, the general health of Americans improved at an unparalleled rate. However, the concurrent escalation in costs and expenditures for health care are of concern to the medical profession as well as the public.

National health care expenditures during the decade of the 70's increased at an annual rate of 8.2 percent, while the overall cost of living increased at a rate of 7.8 percent. During this same period the rate of increase for physicians' services was 8.3 percent and hospital room charges was 11.4 percent. Physicians' services account for approximately 18 percent of all health care expenditures, while hospitals account for approximately 40 percent. The remaining expenditures are for dentistry, medications, longterm care facilities, and other related items and services.

The general inflationary spiral of the past ten years has hit the health care field particularly hard because it is so heavily labor-dependent. Added to this is the growth in health insurance, particularly those policies providing "first dollar coverage." While this trend of expanding coverage to more people, including the elderly and the indigent, has helped improve health care and the quality of life, it has also increased costs by fueling patients' demands for health care services.

Another factor has been the considerable expansion of the government's role in health care. The government has provided significant funding for a broad array of programs, as well as adopting numerous regulations that have added billions of dollars to health care expenditures. Many of the governmental actions have been of benefit to the public. They have, nevertheless, also been extremely expensive. A much quoted hospital cost study a couple of years ago in New York indicated that 25 percent of hospital costs were directly related to government regulations.

The life expectancy of Americans is another reason for the increases in health care costs. As life expectancy has been increased, the incidence of chronic disease, which requires expensive, extended care, has raised the costs to society. Finally, the substantial increase in malpractice insurance rates, along with pressures on physicians to engage in "defensive" medical practices to guard against lawsuits, together have escalated costs.

Arkansas Medical Society Position

The Arkansas Medical Society has long been concerned over the escalation in the costs of health care, and this issue has been a major discussion item for its leaders and its members.

Physicians in Arkansas, as well as those across the nation, have worked with the Voluntary Effort, a program for voluntarily holding down the cost of health care through cooperation with hospitals, other groups interested in health care costs, and members of the public. The Arkansas Medical Society encourages physicians to work together and with hospitals to assure that quality medical care is provided in the proper manner and in the proper setting as a means of holding down costs.

Important sectors of the nation's economy that can have a positive impact on costs are the Federal government and the public. Actions by the government to reduce the rate of inflation would have a corresponding effect on the cost of health care. Such actions, coupled with a reduction or change in Federal regulations that have no important benefits to the safety and well-being of the public would also be beneficial.

The public can do its part by adopting a healthful life-style and utilizing the services of the health care system in a cost effective manner. People should follow advice to stop smoking, get adequate rest, maintain a healthful diet, and get plenty of exercise. Everyone should select and utilize a personal medical doctor. When under his care, follow his recommendations, get adequate checkups, and utilize his services in his office whenever it is practical.

HEALTH EDUCATION OF THE PUBLIC

Health education should be designed to inform and motivate the individual toward practices that will result in optimal health. To be successful, health education must induce people to apply health information to life and living. The goal of health education is to achieve fundamental changes in life-style — away from patterns that contribute to illness and early death, and towards new patterns that promote good health.

The Arkansas Medical Society has a long history of involvement and commitment to health education for the public. The Society currently has active committees whose primary thrust in-

cludes public education as a means of preventing illness and maintaining health.

The Arkansas Medical Society encourages county medical societies to establish active liaison with local school systems, to provide lectures on appropriate subjects in both the public school system and colleges, and to have physicians and other health professionals make themselves available as consultants and resource people.

Health education and preventive health care are perhaps the most important factors in stabilizing health care costs. The challenge Arkansans face is to take better care of themselves.

Health education really takes two forms. The public must begin to better educate children in good health practices and increase commitments to this program in the public schools. The long-term benefits to the health of the people and to health care cost containment could be enormous. The adult population of the State must be encouraged to change its life-style for immediate benefits in health and well-being and the cost of care.

Physicians who have an opportunity to do so can contribute to the development and improvement of a sound curriculum in health education. Physicians and organized medicine can play a positive role in support and action to promote the concept of a balanced and complete program of health instruction throughout the school years. The Medical Society recognizes that health education in schools is critical for maintaining wellness and for the prevention of serious health problems.

LAETRILE

General Information

Laetrile is a chemical easily derived from ground apricot and other fruit pits. For more than twenty years, laetrile proponents have said the drug can "cure or prevent" cancer. For the same length of time, researchers from independent medical centers and the National Institute of Health have studied the drug and found it to be of no value for any form of cancer. A number of states, however, have legalized laetrile because of the advocacy of special interest groups who have promoted legalization on inappropriate "freedom of choice" issues.

Applicable Laws and Regulations

A federal agency, the Food and Drug Administration (FDA), serves to protect the public from

the marketing and promotion of substances which are not proven to be safe or effective. This agency has not found that laetrile satisfies the requirements for sale to the public as a pharmaceutical for use in the prevention, cure or control of cancer.

This determination by the Food and Drug Administration has prevented interstate shipment of laetrile and it is legally available only in those states which have authorized the use and manufacture of the substance. Arkansas has chosen not to legalize laetrile.

Because of the continuing pressure from several proponents of the use of laetrile, the FDA has decided to continue the testing of this substance although all previous tests have determined it to be noneffective, and in some cases harmful.

Arkansas Medical Society Position

The Arkansas Medical Society, along with several other organizations, opposes legislation to legalize laetrile. The Cancer Society pointed out in a 1976 publication, *Laetrile*, that laetrile is dangerous. The Cancer Society noted that (1) when laetrile is taken orally, it decomposes in the intestinal tract to cyanide which can be lethal to infants or weakened, elderly adults; (2) if taken to "prevent" cancer, laetrile gives people a false sense of security so they ignore methods of early detection; (3) cancer patients are persuaded to stop their conventional medical treatment which is said to interfere with the action of laetrile. In treating cancer, time is essential. The earlier a cancer is detected and treated, the greater the chances are for success; and (4) the cost of laetrile to the patient can be ruinous, although the drug costs only pennies to manufacture. In addition to the cost of the substance, many people travel to Mexico and even to Europe to obtain laetrile.

It is the position of the Arkansas Medical Society that laetrile is a substance which has no proven value as a drug. The Arkansas Medical Society supports the protection of cancer patients through strict adherence to the FDA's established method of scientific testing and does not approve of exemption of such methods for any particular substance. The Arkansas Medical Society should continue to inform the public of the lack of scientific evidence for the use of laetrile in the treatment of cancer and to decry the use of ineffective substances in the treatment of disease.

HOME HEALTH CARE

Background

Over the past half-century, the increase in prevalence of chronic diseases, requiring long-term medical and supportive care, has resulted in a need for closer examination of home health care as an appropriate method for delivery of some health care services.

In 1972, the American Medical Association defined the basic non-physician components of home care as the provision of nursing care, social work, therapies (such as diet, occupational, physical, psychological, and speech), vocational and social services, and homemaker/home health aide services. At the physician's request and under his medical direction, personnel who provide these home health care services operate as a team in assessing and developing the home health care plan.

Home health care services are available from a variety of sources, including both private for-profit and non-profit agencies, hospitals, nursing homes and county health departments. The expansion of for-profit home health agencies is the result of changes in federal law effective July 1, 1981, which allowed payment through Medicare. This change in the law, along with the increase in the cost of hospitalization and nursing home care, and the increase in over sixty-five population, has caused additional interest in home health care and a proliferation of organizations offering home health care services.

The Arkansas Department of Health, through the county health departments, has for many years been involved in home health care. In fact, one of the original reasons for the establishment of county health departments was to offer nursing services in the home to individuals living in rural areas. *Seventy-four of the Arkansas Department of Health's county health departments are Certified Home Health Agencies.* It is only in Pulaski County that home health care is not offered by the county health department. Services in Pulaski County have, for a number of years, been offered by the Visiting Nurse Association of Pulaski County.

Laws and Regulations

Home Health Agencies are certified by the Arkansas Department of Health under regulations developed by the federal government as a result of Medicare laws. To become certified requires the determination of the need for such services in an area such as a county by the State Health

Planning and Development Agency which is responsible for issuing a Certificate of Need. An agency providing home health services cannot receive payment from Medicare for services provided unless that agency is certified.

The major portion of the payments made for these services is by Medicare, with only a limited portion being by insurance companies and private payments. It is assumed in this paper that all Home Health Agencies are certified. Arkansas Blue Cross and Blue Shield, the financial intermediary for Medicare in Arkansas, and the Arkansas Department of Human Services are responsible for monitoring services paid by Medicare and Medicaid to determine that such services are not overutilized or inappropriately provided.

Some of the regulations for Certified Home Health Agencies include:

1. An agency must provide skilled level of care provided by a Registered Nurse and at least one other type of care such as Physical Therapy, Speech Therapy, or Occupational Therapy, social counseling or home health aid services.
2. Only home-bound patients are eligible for home health care services when it has been determined by a physician that such services are needed. Agencies are allowed to make one home visit to evaluate the patient before signed physician's orders are required.

Medicare views home health services as justified only on a relatively short-term basis and that most patients receiving such services should show a potential for rehabilitation. It is not anticipated that home health care services for an individual patient will be provided on a long-term basis.

Home Health Care provides services such as wound dressings, injections, insertion/care of catheters, and other skilled services. One of the goals of home health care is to teach members of the family to provide adequate care for the home-bound patient.

Arkansas Medical Society Position

The Arkansas Medical Society is of the opinion that quality home health care provided at a reasonable cost to those individuals who may benefit from service constitutes a logical extension of the physician's therapeutic responsibility. Home care services should be viewed as another level of care to hospital, nursing home, or other institutional care and is a part of a total medical care plan. As

such, home care may enable the patient to remain in, or return to, a home environment that may be psychologically therapeutic and could result in a cost saving. The patient receiving such care must want to receive care in the home environment and family relationships should be conducive to care. Home health care services should not be viewed as a replacement for hospital or nursing home care because daily or occasional visits by health professionals cannot replace the constant type of care being provided in institutions. It can, however, be beneficial to those individuals needing professional services on a limited basis.

HOSPICE

Background

"Hospice" has been described by the National Hospice Organization (a trade association for hospice) as a concept for caring for the terminally ill and their families whereby their physical, psychological, spiritual, and social needs are met through the use of an interdisciplinary team consisting of physicians, nurses, physical therapists, pastoral counselors, social workers, and lay volunteers. Under a hospice program, the patient is usually cared for at home for as long as possible, and volunteers are an integral part of the services offered.

A hospice program of care differs from traditional medical services in that services are provided not only to the terminally ill patient but also to the patient's family. "Family" includes not only relatives, but also friends or those individuals whom the patient regards as essential to his care and support. The family is included in the unit of care services to: (1) support the family in maintaining the patient in the home, and (2) to help the family adjust to the impending loss and eventual death.

At the present time, most hospice programs consider a limited life expectancy as determined by a physician to be the requisite of eligibility for hospice program participation. The decision to utilize hospice services is made by the patient and his family, and services are provided only at their request and with the cooperation of the attending physician.

Funding

Programs now providing services in the State are non-profit, tax exempt organizations. These programs are funded by contributions, memorial gifts, endowments, or bequests from persons who

support the hospice concept and who may some day want the service for themselves or their family. The programs receive additional funding through grants from foundations or industries and local United Way agencies. Limited state funding has been appropriated to some programs through the Office on Aging.

Currently, except for pilot programs, hospice care is a package of services not reimbursable either through insurance companies, Medicare, or Medicaid. Those patients eligible for Medicare, Medicaid, or other insurance do, of course, receive their usual benefits for medical treatment.

Laws and Regulations

There are currently no Arkansas or federal laws or regulations that specifically address hospice care. Approximately fifteen other states have passed legislation specifically dealing with licensing requirements for hospice. Some hospices have received certification as a Home Health Agency. Those so certified must comply with Medicare regulations pertaining to certification. The Arkansas Department of Health is the state agency responsible for certification and compliance with Home Health Care regulations.

Arkansas Medical Society Position

The American Medical Association House of Delegates at its June 1978 meeting adopted a resolution in support of the hospice concept for the caring of the terminally ill.

In September 1981, the Council of the Arkansas Medical Society issued the following policy statement:

"The hospice concept is a noble idea to try and reduce the pain and suffering, both mental and physical, of dying persons and their families.

"Active hospice programs are in operation in two or more areas of the State at this time. Volunteer participation is the backbone of the program and includes those specifically trained to interact with dying patients and their families as well as volunteer workers who drive patients to and from medical facilities to receive care.

"Funding for hospice programs is varied. Third party (private as well as government) support is being sought. This represents competition for shrinking third-party payments.

"Suggestions:

1. That the Arkansas Medical Society endorse the hospice concept of providing

care and attention to dying patients and their families.

2. That volunteer participation be encouraged.
3. Not to support the use of Medicare or Medicaid funding for the funding of hospice because of the pressing demands on the shrinking source of money.
4. That doctors be encouraged to continue their education in the care of the terminally ill and the social interaction of the family and that they actively call in those persons who can help in the relief of some of the pain and inconvenience of the dying patients and their families."

The Arkansas Medical Society endorses the concept of hospice care of the terminally ill when it is so chosen, voluntarily, by the patient, his family, and attending physician. The medical care aspects of hospice care should be provided by a duly licensed Doctor of Medicine (M.D.) or Doctor of Osteopathy (D.O.).

Report of the Executive Vice President

C. C. Long, M.D.

During the year of 1981, the staff of the Arkansas Medical Society has been involved in many projects as directed by the Council and the House of Delegates.

The first statewide series of eight one-day seminars for physicians' office personnel were put on, utilizing trained professionals from the American Medical Association. The reception to this program was very good with the demand exceeding the limited seventy-five enrollees in each seminar.

The staff continued to expand its efforts in attending legislative sessions and lobbying. One staff member was assigned to the Legislature during each day of the regular and special sessions. Also, staff attendance at the committee meetings during the year that were pertaining to health and health-related matters was continued.

The total membership of the Society has increased to 2,055, with an increase of approximately eighty dues-paying members during the past year.

The three executive staff members meet with and provide staff support to the thirty-four committees of the Society during committee meetings and as desired by the chairmen of the various committees.

During the year of 1981, considerable time and effort was expended in investigating and evaluating automated data and word processing systems. The results of this investigation were presented and approved by the Council and steps are being taken to acquire and implement this system during the year of 1982.

The decrease in Federal financing and the resulted changes in the function of various agencies and bureaus in the health field in Arkansas have necessitated the expenditure of considerable time and effort. Staff members have met with committees and with members of these various agencies and bureaus to try to understand the types of changes that were being implemented and to make suggestions as to ways in which change could be made so as to continue to provide the best possible health programs for the citizens in the State of Arkansas within the fiscal constraints and the administrative changes which were made.

Due to the general economy and to the changes being implemented because of decreased Federal funding, the year of 1982 will be one of interest, problems and change, and your staff will try to keep informed and to keep you advised as these changes are proposed and implemented.

Budget Committee

William N. Jones, M.D., Chairman

The Budget Committee submitted the following budget for 1982. The complete budget, as presented to the Council, is available to members upon request.

INCOME	
<i>Budget Item</i>	<i>1982 Budget</i>
Membership Dues	\$409,186.00
Journal Advertising	35,000.00
Booth Income	12,500.00
Annual Session	4,000.00
AMA Reimbursement	3,700.00
Miscellaneous and Rosters	4,000.00
Interest	60,000.00
Specialty Desk	1,200.00
INTRAV Reimbursement	1,500.00
Ark. Foundation for Medical Care	22,050.00
Continuing Medical Education	600.00
	<hr/>
	\$553,736.00
EXPENSES	
Salaries	\$189,473.11
Travel and Convention	40,000.00
President's Travel	2,000.00

Taxes	13,000.00
Retirement	21,600.00
Stationery and Printing	8,500.00
Office Supplies and Expenses	20,000.00
Telephone and Telegraph	12,000.00
Rent	24,000.00
Postage	18,000.00
Insurance and Bonds	12,000.00
Auditing	3,000.00
Council Expense	5,000.00
Lobbying Activities	500.00
Journal Printing	57,000.00
Annual Session	20,500.00
Winter Meeting	-0-
Dues and Subscriptions	4,500.00
Gifts and Contributions	1,500.00
Woman's Auxiliary	1,200.00
Legal Services	18,000.00
Special Committee	1,000.00
Rural Health	500.00
Miscellaneous	800.00
Freight and Express	50.00
Office Equipment	1,000.00
Continuing Medical Education	500.00
	<hr/>
	\$475,623.11

Medical Education Foundation for Arkansas

Robert Watson, M.D., President

The Medical Education Foundation for Arkansas was founded in 1962 by the Arkansas Medical Society. The stated purpose of this Foundation is to promote and support worthy means of bettering medical education in Arkansas.

The Foundation is financed by a \$5 a year commitment from dues of each member of the Arkansas Medical Society, from memorial donations, and from investment income.

A most satisfactory means of fulfilling the intent of this Foundation has evolved. During the past several years, a series of continuing teaching presentations has developed for the University of Arkansas College of Medicine, known as the Arkansas Medical Society lecture programs. Eight presentations are made each year by nationally-recognized educators and physicians from throughout the country through which appropriate subjects are presented to the students and faculty of varying academic levels. These programs have become more popular with both students and faculty, and are identified to both as "The Arkansas Medical Society Lectures." Through the support of the State Medical Society

and through conscientious stewardship of your Foundation board, this educational program is assured of continuing service to the medical students, to the Medical School, and to the State Medical Society.

Arkansas Medical Society Political Action Committee Ken Lilly, M.D., Chairman

In April 1981, the following individuals were elected to the Board of Directors of the Political Action Committee:

Dr. Larry Lawson, Paragould
Dr. Raymond Biondo, North Little Rock
Dr. Jerry Mann, Arkadelphia
Dr. Donald Duncan, Texarkana
Dr. W. Payton Kolb, Little Rock
Dr. John M. Hestir, DeWitt
Dr. F. E. Joyce, Texarkana
Dr. George W. Warren, Smackover
Dr. Bobby McKee, Jonesboro
Mrs. Kemal Kutait, Fort Smith
Mrs. Paul Cornell, Little Rock
Mrs. Charles Wilkins, Russellville
Mrs. John P. Burge, Lake Village

The board elected J. Larry Lawson as secretary-treasurer and re-elected Ken Lilly as chairman.

At its annual meeting, the Board of Directors reaffirmed its position of supporting candidates who support the free enterprise system in constitutional government and who resist the encroachment and interference of government into the lives of its citizens. The Board resolved to support those candidates who are in agreement with the philosophy of the majority of the supporters of the political action committee.

Board members are working to increase participation, with each Board member assigned a portion of the Medical Society membership for solicitation of PAC support.

The Political Action Committee will again send a representative to Washington with the Arkansas Medical Society delegation to visit with the Arkansas Congressional members.

The Board of Directors will meet on Saturday afternoon during the Society's annual session and formulate plans for the 1982 election year. With a number of individuals announcing as candidates for the office of Governor of the State and for congressional seats, 1982 promises to be a busy year politically. The Board urges you to let your directors know what action you wish us to take.

Arkansas State Medical Board

January 1, 1981 - January 1, 1982

The officers and members of the State Medical Board are as follows:

H. Elvin Shuffield, M.D., Vice-President

Hugh R. Edwards, M.D.

Frank M. Burton, M.D.

John F. Guenthner, M.D.

George F. Wynne, M.D.

C. Stanley Applegate, M.D.

Bascom P. Raney, M.D.

Vernon H. Carter, M.D.

Joe Verser, M.D., Secretary-Treasurer

Mr. John B. Currie, Sr.

Robert M. Cearley, Jr., Attorney

The State Medical Board published a 1982 annual directory which has gone to the printer and we should be able to mail copies to each physician at a very early date.

Mr. John Currie, lay member of the Board, at one of the Board meetings during the year brought up the fact that physicians who graduated from the University of Arkansas for Medical Sciences in the last ten years were not going to small towns and rural areas in this State. Statistics were presented to the Board stating that out of 1,000 graduates during the past ten years, only 5% of them have located in towns of 5,000 or less. The Board also had a letter from twenty-four (24) Family Practice residents from the University of Arkansas for Medical Sciences stating that the Family Practice program was deficient in several areas and asked the Board to help them get the program improved. Based upon these findings, the State Medical Board voted to ask the Public Health Committee of the Arkansas Legislature to hold a public hearing relative to the admission policy of the University of Arkansas for Medical Sciences and to include in this hearing the Family Practice residency program at the University of Arkansas at Little Rock. The Public Health Committee, after being presented with the evidence, agreed to hold a public hearing as requested by the Medical Board. This hearing should be held in the early part of 1982 and, as I understand it, a number of physicians will be asked to testify at this hearing.

A yearly financial report of the Board's activities, prepared by Johnston, Freeman & Company, has been sent to the office of the Arkansas Medical

Society, a summary of which is included in this report.

The Board investigated every case of violation of the Medical Practices Act and every complaint filed against physicians reported to the secretary during the year.

The State Medical Board licensed 146 physicians by examination and 132 physicians by reciprocity during the year 1981.

Following is a summary of the Board's proceedings:

Physicians registered for 1981:

Resident	3,085
Non-Resident	2,031
Physicians licensed by examination	146
Physicians licensed by reciprocity	132
Physicians licensed by National Board	52
Physicians certified by other states	127
Licenses revoked for non-payment of annual registration fees	44
Licenses suspended for non-payment of annual registration fees	97
Licenses suspended for violation of Medical Practices Act	5
Cases pending for violation of Medical Practices Act	1

ARKANSAS STATE MEDICAL BOARD BALANCE SHEET

June 30, 1981 and 1980

Cash in banks —	June 30, 1981	June 30, 1980
Bank of Harrisburg, AR		
Checking Account	\$ 50,550.55	\$ 26,827.36
Certificates of deposit	121,841.52	112,307.04
Accrued interest		
receivable	4,667.72	580.35
Office equipment	6,227.51	5,157.85
Less: Accumulated depreciation	(2,456.03)	(1,875.94)
TOTAL ASSETS	\$180,831.27	\$142,996.66

LIABILITIES AND FUND BALANCE

Accounts payable	\$ 1,775.41	\$ 4,405.56
Payroll taxes withheld	1,479.13	—
Accrued retirement	376.77	—
Accrued salaries	—	400.00
TOTAL LIABILITIES	3,631.31	4,805.56
FUND BALANCE	177,199.96	138,191.10
TOTAL LIABILITIES & FUND BALANCE	\$180,831.27	\$142,996.66

Arkansas Department of Health
Ben N. Saltzman, M.D., Director

Dr. Robert W. Young served as Director of the Arkansas Department of Health until February 1, 1981. Upon his resignation, Dr. A. Stuart Fitzhugh served as Acting Director until June 1, 1982. During this time, he did an outstanding job of stabilizing the reorganizational procedures effected by Dr. Young and effectively managed the difficulties caused by a major cut in State funding. With the help of Tom Butler, Administrative Director, Dr. Fitzhugh managed to preserve services to the county health offices and the people of the rural areas of the State. Most of the changes took place in the central office through a system of reorganization of priorities and "belt-tightening." Prior to my taking office as Director, June 1, I had about three weeks of orientation in the Department of Health and was very impressed with the work that these two men, and the heads of the other Bureaus had accomplished. I asked Dr. Fitzhugh and Tom Butler to serve as Deputy Directors for the Department of Health. Dr. Fitzhugh, because of his long-term service and knowledge, became the Deputy Director for Health Protection and Services. Tom Butler, with more than eleven years of service in the Health Department, and knowledgeable of administrative procedures, became the Deputy Director for Administrative Services. Despite their new titles, both of these men continued to serve as heads of two Bureaus, the Bureau of Health Resources and the Bureau of Administrative Support Services, respectively. Dr. Young had instituted an effective reorganizational program that included, in addition to the two Bureaus mentioned, the Bureau of Public Health Programs, the Bureau of Community Health Services and the Bureau of Environmental Health Services. The Directors of these five Bureaus serve as managers reporting to the Board of Health.

The Board of Health has been expanded to 17 members and has taken on new responsibilities as a true governing body. Liaison has been established with the Arkansas Medical Society through meetings with an advisory committee of the Council of the Arkansas Medical Society and meetings of the Director with the Executive Committee of the Arkansas Medical Society.

Although the Arkansas Department of Health is functioning in a time of shrinking resources,

it is attempting to carry out a dynamic mission which deals with new major health issues, as well as the more traditional public health functions. What follows is an abbreviated list of the accomplishments made during this past year utilizing the Bureau categorization to simplify the presentation.

The largest number of activities in public health exist in the *Bureau of Public Health Programs*. The Director is Charles McGrew, M.P.H. Under the section of Personal Health Services, the Hearing and Speech Clinic Program is providing evaluation and assessment services to children from all over Arkansas who are suspected of having communication problems in hearing, speech or language. The clinic is the only facility in the State accredited by the Professional Services Board of the American Speech-Language-Hearing Association. A Newborn Hearing/Screening Program is to be initiated in February of 1982 as a result of the extensive efforts of physicians in private practice, volunteer groups and the Health Department. Prevention and Education is the chief focus of dental services in the Health Department now. The Fluoridation Project Grant Program, by providing grant funds to rural schools or communities of over 500 population, has shown a great cost-effectiveness ratio for the reduction of dental cavities in children. This program has also assisted 150 fluoridated water systems in the State to implement monitoring and surveillance programs. The systems now serve over 1,000,000 people. Dental health education is being implemented in ten schools across the State.

The Family Planning Program has increased the number of patients served during 1981 and, despite serious cuts in funding, will continue to serve a population very much in need. Approximately 150 private physicians over the State provide services.

The Office of Rural Health Development continues to assist communities designated by the U. S. Public Health Service as having physician shortages. Over 65 communities have been served in many ways. The office finds physicians and helps in recruiting and placing them. Last year, 20 physicians visited 60 different communities with 17 choosing to practice in health manpower-shortage areas in Arkansas. In January of 1982, nine physicians visited Arkansas and all nine are committed to practicing in underserved areas be-

ginning in July. The staff is helping rural communities raise funds to construct, renovate or equip clinics. In the last seven months of the year, these efforts resulted in four new operational clinics, with three more under construction.

Under the section of Environmental and Health Maintenance, the Hypertension Control Program has been quite successful. In cooperation with the American Heart Association, Arkansas affiliate, and with community groups on a state-wide basis, 104,050 individuals were screened for high blood pressure in 1981. Of this number, 15,677 exhibited elevated blood pressure readings. The patients were usually referred to their own physician for treatment. If the physicians preferred, joint care was instituted with the public health nurse following up to ensure that their prescribed regimens were being followed. Joint care was provided 2,846 hypertensive patients, which represented a 20% increase over the previous year. In 1981, the Immunization Program changed directions and became chiefly concerned with the maintenance of high immunization levels in the children of Arkansas. Other significant activities included assessment, surveillance, hospital based maternal education, outbreak control, including an epidemic at a migrant labor rest stop in Hope, Arkansas, and a measles outbreak program in Harding University in Searcy.

The Epidemiology Program included an investigation of an histoplasmosis outbreak in construction workers in Garland County, an hepatitis outbreak in Cleburne County, echinococcus granulosus in two individuals, hepatitis in Pulaski County, continued tracking of typhoid carriers in the State (37), investigations of hepatitis, Legionnaires Disease, malaria, typhoid, toxic shock, Salmonella, Shigella, rubella, tetanus, Reye's Syndrome and pertussis. Continuation surveillance of a 1980 outbreak of influenza A starting at Christmas time and continuing for two and a half months was accomplished.

The Tuberculosis Program has completed the computerization of its extensive data base on the therapy of about 1,700 patients treated with rifampin and isoniazid as short-course therapy. Dr. William Stead continues to provide leadership here and abroad through investigative research and treatment of tuberculosis in Arkansas.

The Venereal Disease Control Program discovered major outbreaks of early syphilis in three

counties in the State which were brought under control in 1981. There was a slight increase in the number of gonorrhea cases for the second half of 1981. In December, 1981, the first case of penicillinase-producing gonorrhea was detected in Arkansas.

The program staff of the Blood Alcohol Program discovered a design deficiency of a newly-approved breath-testing instrument. The manufacturer corrected the problems and is proceeding to do the same in all other states.

The Rodent Control Program is now providing technical assistance to communities around the State interested in developing their own rodent control programs. The Childhood Blood Lead Screening Program will now target screening activities to only those counties which experienced 1% or greater positive rate.

The Office of Emergency Medical Services has developed an Emergency Coordination Center which provides a state-wide central access system which reaches 50% of the population of the State. Seven counties now utilize the toll-free Enterprise 8-900 number. Cities above 35,000 population can now enact local ordinances which could be more stringent than state EMS laws.

The Home Health Care Services Office provides one of the major thrusts of the Arkansas Department of Health. Home Health is a co-operative effort between the physician who initiates action, the patient, the patient's family and the public health nurse acting under physicians' orders. We now designate registered nurses in local health units who deliver home health services fulltime rather than splitting their time with other public health functions. A mechanism now exists which makes it possible for local health units to hire more nursing staff if their caseloads increase sufficiently as a result of physician referrals. Many improvements are underway to broaden services available to the physician. The Department is also beginning the provision of personal care services under contract with the Division of Social Services in a 10-county area of North Central Arkansas.

The Bureau of Environmental Health Services under Jerry G. Hill, R.S., Director, has initiated a state-wide plan for quality assurance through the Division of Sanitarian Services. Through the Engineering Division, 19 new public water supplies were approved providing water service to approximately 6,500 people. In addition, 19 pub-

lic water systems initiated fluoridation.

The Environmental Support Section relocated seven blackbird roosts and conducted one pigeon reduction program to reduce the risk of spread of Histoplasmosis. The Rat Control Program was utilized state-wide and an *Aedes aegypti* mosquito survey was performed. Inventory of non-community type public water supplies affecting cafes, rest stops, travel parks, etc., was completed.

In the Division of Environmental Health Protection, Radiological Health developed a simpler and clearer licensing form. This section licensed an application for the use and possession of 2,000,000 curies of Cobalt-sixty in an irradiation facility in West Memphis, a process requiring many man-hours of concentrated effort. This section provided training and education to Health Department field personnel. A separate health department annex was added to the State of Arkansas Emergency Operation Plan. This was accomplished in direct support of the Radiological Emergency Plan for the Arkansas Nuclear One Electrical Power Generating Facility.

The Telecommunications Section was involved in the extension of radio coverage to Northeast and Southwest Arkansas. This section is operating in cooperation with the American Red Cross Blood Center. An Emergency Field Operations Center was set up at the State Fair. An emergency communications committee has been formed and includes representatives from the Health Department, the State Forestry Commission, the Office of Emergency Services and the Arkansas Power and Light Company and is to be used in support of the Emergency Operations Plan.

A Division of Health Facility Services is concerned with the construction of health care facilities for new hospitals, major expansions, plans and out-patient surgery centers. We were involved in 43 such operations.

There has been a drastic increase in home health agency certification, from approximately 90 agencies to the present 122 certified. There are approximately 25 viable pending certifications. An improved State Licensure Program has been made possible with the filling of two important positions. Hospitals and related institutions have been provided education and consultation opportunities.

Under the Division of Sanitarian Services, improvements and increased work activities were

evident in the General Sanitation Section which deals with minimum program standards for swimming pools, individual sewage disposal, mass gatherings, hotels and motels, septic tank pumpers and hazardous environmental conditions. As needs were determined by state-wide program evaluations, this section implemented district-county training sessions for sanitarian supervisors, sanitarians and representatives from industry in the fields of septic tank installation and swimming pool operation-maintenance.

The Food and Dairy Products Section has assumed all of the responsibilities involved in manufactured milk products throughout the State. It also assumed the Meat Certification Program for participating State institutions which was formerly assigned to the Department's Meat Inspection Program. An Advisory Committee of Health Department personnel and varied industry personnel has been established and is actively meeting quarterly.

Under FDA Contract, destruction of contaminated foodstuffs has been effected. Capital improvements totaling \$2,015,630 were completed by business owners to comply with applicable regulations.

The Division Investigation Unit has been active in teaching Criminal Compliance and Drug Diversionary Techniques at the State Law Enforcement Training Academy as well as at local enforcement seminars. The DIU agents have been trained in Drug Enforcement Administration in college level courses. The seven investigators have been ranked highly effective by the New Orleans Regional Office of DEA.

The Bureau of Community Health Services is headed by Nancy Ropp, Director. Functioning through 11 area offices, the Bureau is responsible for the management and coordination of services, personnel, facilities and other resources in 96 service delivery sites (county health offices). This includes every county in Arkansas. One of its chief functions is maintaining successful working relationships with local and county government officials and other health providers and agencies in the community.

In 1981, through the efforts of county and municipal officials, several local health facilities were upgraded. The Perry County Health Unit moved to larger and better quarters. The Stone County Health Unit moved to a new facility. The Pulaski County Hospital is being upgraded to

house a variety of public health operations previously based at Central Baptist Hospital, and will house the Pulaski County Health Unit.

Administrative efficiency in field operations has resulted in many positive results.

I have initiated an all-out effort to revise the duties and responsibilities of the county health officer and have been receiving requests for appointment of new officers and reappointment of those having served previously, for 1982-83. All 75 counties should have health officers at this writing. It is my feeling that cooperative health officers can be of immense value to the Department of Health and to the people they serve. I plan orientation courses for all physicians in this category.

The Bureau of Health Resources, as stated previously, is headed by Dr. A. Stuart Fitzhugh, Director. This Bureau coordinates the services of health care providers and includes technical support, continuing education and professional standards. During the first six months of 1981, the Environmental Training and Professional Development Section's primary responsibility was to coordinate sanitarian training, public relations and education for all programs located in the Division of Sanitarian Services. After July of 1981, the responsibilities of this section were expanded to include all divisions in the Bureau of Environmental Health Services. This section accomplished the initiation of a quarterly Bureau Newsletter, the coordination of a publicity campaign for Emergency Medical Services and the development of a resource file of news articles for use by county sanitarians. The section offered and monitored home study courses for all interested Bureau of Environmental Health personnel.

The Division of Public Health Education has been very active. The film library was reopened. A Public Health Education Resource Center was initiated providing all types of educational information supplies, audio-visual production and photography equipment. Healthstyle Program, a health promotion media campaign, was implemented by the division. This media campaign was the first of its kind for Arkansas. The Governor proclaimed August as Healthstyle Month, setting off activities. The program is concerned with health risks and enables people to assess their own personal health risks in the areas of smoking, alcohol/drugs, stress, nutrition, safety and exercise. Print and the electronic media were both

used to publicize the program. The campaign succeeded in reaching approximately 50,000 people. Expansion of the program will continue as a very cost-effective means of providing for preventive health care education.

The Division of Medical Social Services performed well during the year. Audits of the Adolescent Pregnancy Clinic and the Home Health Program were performed as a means of analyzing social work input. Social work services for home health patients have been expanded. An Employee Assistance Program was initiated for Health Department employees with psycho-social problems.

The Division of Public Health Nursing accomplished much, primarily in the area of in-service and staff development.

The Division of Nutrition Services completed the first phase of a plan to create a Nutrition Surveillance System in cooperation with the Center for Disease Control in Atlanta. An Office of Dentists, Pharmacists, Physicians and Veterinarians conducted interdisciplinary reviews of nursing, sanitation and engineering programs and services. A pharmacy policy for implementation by county health units was developed. Development of Emergency Treatment and Drugkit Procedures was initiated for the county health units.

The Division of Pharmacy Services has successfully completed pilot studies to improve pharmacy services in Arkansas' public health clinics. A Quality Control Program was also prepared by the Division of Pharmacy Services that will serve as a model for all clinics.

The Division of Records and Clerical Services has continued to update the State Health Department's Records Management System during 1981. This was a much needed procedure. The system serves all the local health units in Arkansas in an effort to meet the needs of the Agency's programs. It continues to set criteria and monitor clerical personnel in the local health units.

Again as stated before, the *Bureau of Administrative Support Service* is headed by Tom S. Butler, Director. This Bureau helps the Agency move closer to its goals by providing support in the areas of Financial Management, Data Processing, Personnel, Legal Services, Central Supply and Maintenance of the Central physical facility. The Division of Financial Management was reorganized to include both top level and middle level managers for the most effective use of fi-

financial resources. New developments in Time Allocation were achieved. Extensive training sessions in local health units and enhancement of computerized payroll information has resulted in a greatly increased reliability of the system.

The Division of Vital Records has a new Uniform State Vital Statistics Law which has enhanced the reporting of birth certificates for our State. Births can now be certified by hospital administrators if the physician does not do so up to 72 hours. A training program in various areas to keep Health Department staff, funeral homes, and hospitals informed as to proper procedures for completing certificates without the aid of field representatives, has been instituted.

The Division of Data Processing is engaged in a large-scale project with the management consulting firm of Coopers and Lybrand, to develop and implement standards and procedures and short and long-range planning and to revise documentation of the existing system to meet newly developed standards.

The Division of Personnel has accomplished the withdrawal of the Health Department from the Merit System, resulting in the savings of approximately \$44,633. Greater flexibility will be provided to design and implement more effective employee recruitment programs and is tailored to locate applicants in disciplines which are most needed, while remaining within the limits of legality and fairness.

To my mind, the most significant accomplishment this past year has been the maintenance of good public health programs for the people of the State, despite severe funding cuts on both the state and national level. We have been provided with the opportunity to accomplish more with less and have trimmed all fat from already strained budgets. Our programs have become more realistic in their scope and outreach. We find ourselves better able to work cooperatively with other mettle and we are able to meet them. I, for one, am proud to be a member of an organization dedicated to serving the people of the State in line with our mission. Governor Frank White and the Legislature have been more than cooperative in helping us meet our goals.

Arkansas Foundation for Medical Care

Paul C. Schaefer, Executive Director

Challenges and opportunities continue to be key words for the PSRO program in 1981. On a

national level, while the future of the PSRO program continues to be debated in the Nation's capitol, business and industry are becoming more and more aware that PSROs can have positive impact both on health care costs and quality of care. Both national and local business groups and coalitions on health see the concept of peer review as one answer to the spiralling health care costs. As a consequence, an ever increasing number of PSROs are contracting with insurance companies, business, and industry to perform peer review.

On a local level, the Arkansas Foundation for Medical Care has not formally signed contracts for the performance of private review, but positive discussions with insurance companies and business are continuing.

Reduced funding from the Health Standards and Quality Bureau to all PSROs necessitated changes in the review program of the Arkansas Foundation for Medical Care this past year. On July 1, 1981, the number of patients undergoing concurrent review in Arkansas hospitals was drastically reduced with a new focusing program developed by the AFMC. Under this program, only those physicians whose average length of stay is 20% higher than their peers were still required to undergo concurrent review. All other physicians were focused-out from concurrent review and are now being reviewed through profile analysis and retrospective studies. Because of this, of the 200,000 plus federally-funded admissions to Arkansas hospitals this year, only about 20,000 will be reviewed upon admission and periodically during their stay in the hospital.

With more emphasis on profile analysis and retrospective studies, the Board of Directors of the AFMC, in October of this year, reorganized the committee structure of the Foundation and established six Regional Review Committees. Each of the six committees meets on a quarterly basis to review the patterns of practice of physicians practicing within that region. This has localized even more the concept of peer review by the AFMC in Arkansas.

Effective with the passage of the 1981 Omnibus Budget Reconciliation Act, PSROs were no longer required to review Medicaid admissions. However states were given the option of contracting with PSRO for this service if they so desired. Effective January 1, 1982, the Arkansas Foundation

for Medical Care will be reviewing Medicaid patients under a contract with the State. The AFMC will thus continue to review all federally-funded patients admitted to Arkansas hospitals.

The role of the PSRO will continue to change. The AFMC has always been very innovative in adapting new programs and procedures to meet changing requirements and will continue to do so. For this reason, your Foundation continues to have one of the lowest review costs of all PSROs in the Nation.

It is our firm contention that the termination of the PSRO program will only come about through total elimination of Medicare and Medic-

aid. As long as the federal government is paying the bill, there will be some form of review. PSROs still provide for that review to be done by local practicing physicians, which is the way it has been and always will be done by the AFMC. Physicians must not give up this right and responsibility of peer review. If they do, it will be taken over by others. For this reason, the Board of Directors of the Arkansas Foundation for Medical Care continues to solicit the support and cooperation of the Arkansas Medical Society. We are deeply appreciative of all your past support and continue to look forward to a good working relationship between our two organizations.



1982 ANNUAL MEETING

The meeting will begin with business sessions on THURSDAY, April 29, 1982. General Scientific Sessions will be on Friday, April 30, and Saturday morning, May 1. Saturday afternoon is reserved for specialty group meetings. The convention will conclude with business sessions on Sunday, May 2, 1982.

The scientific program theme will be "Preventive Medicine in the 80's."

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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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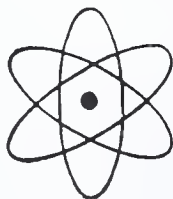
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Organic Mental Disorders

Robert F. Shannon, M.D.*

The most frequently encountered psychiatric disorders in a general hospital are the organic mental disorders. Organic mental disorders are a heterogeneous group, characterized by a psychological or behavioral abnormality associated with transient or permanent dysfunction of the brain. The dysfunction may be due to a broad range of conditions which include systemic as well as CNS localized pathology. Such conditions would include trauma, metabolic disorders, toxins, endocrine disorders, infections, neoplasms, degenerative diseases, ingestion of substance (alcohol, drugs, poisons) and circulatory problems. An essential element for the diagnosis of organic mental disorder is neurologic and/or laboratory evidence of brain disease, or at least a history of such.

Under the recently adopted *Diagnostic and Statistical Manual of Mental Disorders*, third edition, a distinction is made between organic brain syndromes and organic mental disorders. "Organic brain syndrome," is used to refer to a constellation of psychological or behavioral signs or symptoms without reference to etiology; "organic mental disorder," designates a particular organic brain syndrome in which the etiology is known or presumed.²

ORGANIC BRAIN SYNDROMES

The Organic Brain Syndromes can be grouped into six categories.

1. *Delirium* and *Dementia* both of which result from widespread dysfunction of or damage to the brain and feature impairment of perception, memory, logical thinking, intellectual performance, judgment and orientation.

Delirium has an acute onset and usually a brief course. The patient usually has disturbances of wakefulness (from agitated insomnia to coma), attention, concentration, alertness and vigilance that tend to fluctuate irregularly from hour to

hour and to worsen at night. Such patients may distort visual and auditory input thus having illusions and hallucinations (predominately visual). (Delirium is generally equivalent to the old term "Acute Brain Syndrome"). Etiologic factors include systemic infections, metabolic disorders, hypercarbia, hypoglycemia, ionic imbalance, hepatic or renal disease, post-operative states, deficiencies, hypertensive encephalopathy and post head trauma.

Dementia is more a chronic disorder, the symptoms last longer and frequently the course is progressive. The degree of reversibility, if any, depends on the underlying pathology and the timeliness of treatment. Clinically, dementia presents relatively sustained deficits of intellect, memory, judgment and orientation without the marked fluctuations of wakefulness and clouding of consciousness. (Dementia is generally equivalent to the old term "Chronic Brain Syndrome"). Causative factors include Alzheimers Disease, CNS infections (TB, syphilis, fungal and viral), brain trauma, vitamin deficiencies, hypothyroidism, multiple infarcts, multiple sclerosis, Huntington's Chorea, Parkinson's Disease, post-anoxic states.

2. *Amnesic Syndrome* and *Organic Hallucinos* both of which result from relatively selective areas of impaired cognition.

Amnesic Syndrome is characterized by memory pathology, both anterograde and retrograde amnesia, and is due to lesions involving bilateral temporal structures and/or the diencephalon.

Organic Hallucinos is characterized by recurrent or persistent hallucinations in a patient who otherwise shows a clear state of consciousness. It may be due to irritative brain lesions or others which somehow interfere with sensory input and allow release of hallucinations.

3. *Organic Delusional Syndrome* and *Organic Affective Syndrome* both of which have features resembling either Schizophrenic or Affective Disorders.

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Organic Delusional Syndrome is characterized by paranoid and/or schizophrenic symptoms which are judged to be the result of a cerebral disorder as opposed to a functional one. Delusions are an essential feature but hallucinations, catatonic withdrawal and other schizophrenic-like manifestations may occur. Etiology may be any of the following: encephalitis, cocaine or amphetamine intoxication, temporal lobe epilepsy, or toxic exposure.

Organic Affective Syndrome is characterized by abnormal mood, either manic or depressed, which is judged to be a direct consequence of a cerebral disorder. Causative factors include acute viral infections, influenza, tertiary syphilis, pernicious anemia, Cushing's syndrome, hyperthyroidism and paralysis agitans.

4. *Organic Personality Syndrome* in which the primary findings are those involving a change in personality judged to be due to cerebral dysfunction. Findings such as lack of motivation, poor impulse control, poor judgment and mood lability in a patient who shows generally intact cognition and who previously did not manifest the above is characteristic of this syndrome. This may be seen in chronic endocrine diseases and with lesions of the frontal lobe.

5. *Intoxication and Withdrawal* in which the disorder is associated with ingestion or reduction in the use of a substance (alcohol, barbiturates, other sedative, opiates, etc.). These are characterized by marked behavioral changes with evidence of recent substance ingestion or reduction of dosage of substance. Intoxication usually manifests itself clinically by clouded sensorium, impaired judgment and belligerence. Withdrawal presents in many ways depending upon the substance, but is of brief duration (a few days).

6. *Atypical or Mixed Organic Brain Syndrome* which constitutes a residual category for any other Organic Brain Syndrome not otherwise classified.

DIAGNOSIS

Diagnosis of the Organic Mental Disorders requires a thorough evaluation of the patient's physical and emotional condition, recent history (especially to assess change in condition) and mental status, as well as a multitude of possible laboratory tests. Complete diagnosis will entail detecting which of the above Organic Brain Syndromes exists plus detecting the etiology of the cerebral dysfunction.

All organic brain syndromes are associated with disturbances of the following:

Intellectual functioning — impaired ability to do simple arithmetic, subtract serial 7's, maintain concentration or generally to think clearly and logically.

Memory — may be from very mild to severe memory loss with more recent memory most impaired.

Affect — lability of affect is most common with rapid alteration between crying or laughing. Some appear dull, depressed, shallow or generally unresponsive.

Judgment — the ability to make appropriate decisions is impaired and may be evident from the history with evidence of a recent change in judgment as regards social situations or business.

Orientation — the awareness of time, place or person may be impaired or distorted and is worsened by any setting where bearings are difficult, e.g., twilight, dimly lit rooms, rooms with no clock or calendar, etc.

There is also a "personality change" associated with organic brain syndromes. Patients tend to become more erratic, unstable, impulsive and to show extremes of what were previously minor personality traits. Such personality changes along with release phenomena account for the hallucinations, paranoid thinking, and mood abnormality found in some OBS.

Organic brain syndromes are differentiated from functional psychoses based on history, findings of an organic cause and on the above findings of deficits in intellect, memory, affect, judgment and orientation. Most functional psychoses show little or no intellectual or memory deficit and orientation is more intact than in organic brain syndromes. Electroencephalogram may also be helpful since most organic brain syndromes show some EEG abnormality.

To diagnose an organic mental disorder, after the organic brain syndrome has been diagnosed, the organic cause must be established. The organic mental disorders include the following:

Dementias arising in the senium and presenium
with delirium, delusions, depression and
uncomplicated

Primary degenerative — presenile onset

Multi-infarct dementia

Substance induced (alcohol, barbituate, etc.)

Intoxication/withdrawal (specify substance)

Substance use disorder (specify substance)

ENDOCRINE DISORDERS

Endocrine disorders may show a full organic brain syndrome (as noted above) or may show only minor psychiatric changes. Some of the more usual psychiatric findings, in addition to those described above, are as follows:

Acromegaly — may have headaches, depressive symptoms, loss of libido and paranoid ideation.

Addison's Disease — anxiety, fatigability, depressive symptoms, mental instability, delirium and overt psychoses with paranoid delusions.

Cushing's Syndrome — anxiety, sexual confusion, social withdrawal, depression and overt psychoses. Tricyclic antidepressants should be avoided in these patients as they may precipitate a psychosis.

Diabetes Mellitus — onset many times preceded by stress. Anxiety, pruritis and impotence are not uncommon.

Hypoglycemia — early symptoms resemble a severe anxiety attack with tremor, sweating, headache, dizziness, nausea and syncope. Illusions and hallucinations may appear.

Hypothyroidism — in mild cases patients may complain of fatigue, loss of emotional control and vague physical complaints. In severe cases there may be changes from mild dullness, memory lapses, irritability to overt psychoses. The psychosis when it occurs is dependent upon the premorbid personality of the patient but most often includes paranoid symptoms.

Hyperthyroidism — in mild cases patients show irritability, instability and overt anxiety. In severe cases they show hypersensitivity, suspiciousness and depression. About one-fifth develop manic excitement with delusions and hallucinations.

FACTITIOUS DISORDER WITH PSYCHOLOGICAL SYMPTOMS

An overview of Organic Mental Disorders would not be complete without some discussion of Factitious Disorders. The individual with Factitious Disorders does not suffer from true organic pathology but for some reason tries to appear as organic and/or psychotic. Such patients have in the past been called "Ganser Syndrome" or "Munchausen Syndrome," and have been labeled as Pseudodementia. These individuals are felt to have underlying depressive or marked dependency symptoms. They show inconsistencies in tests and mental status and will usually have a normal electroencephalogram.

Early detection is important to avoid costly testing and wastage of time and effort in search of organic pathology. Table 1 should help in differentiating "Pseudodementia" from true psychosis or organic mental disorders.³

Once diagnosed, these patients should receive treatment for their underlying disorder.

TREATMENT OF ORGANIC MENTAL DISORDERS

The most important treatment of Organic Mental Disorders is that treatment which halts and/or reverses the cause of the disorder and that should be instituted as early and as judiciously as is appropriate for each particular disease. There are general rules, however, for the treatment of Organic Mental Disorder which should be followed whatever the exact disease process.

1. Conserve and protect life. Vital signs should be monitored and appropriate measures taken to avoid complications or worsening of condition. The patient must be protected from himself.

2. Maximize factors which increase reality testing. Some lighting should be maintained in the patient's room, even at night. Calendars with appropriate month, date, day of the week and year should be displayed in the room, as should a clock. All personnel should wear name tags and should introduce themselves on each contact with the patient. Each procedure should be briefly explained to the patient. The attitude of all personnel should be friendly, straightforward and helpful. Cryptic or sarcastic comments should not be made, and anger toward the patient should be avoided.

3. Planned activities should begin as soon as the patient's condition warrants and here the Occupational Therapist should be called in early. At times physical therapy may also be utilized.

4. Psychiatric, Psychological and Social Services should be available early in both the diagnostic assessments and in the ongoing treatment plans. Later such professionals as vocational counselors or placement counselors will many times be needed.

5. All these personnel should communicate objectively, fully and frequently as changes in the patient's condition occur. When possible the patient's family should share in this process where appropriate and as the patient improves his involvement should be as extensive as his condition allows. The primary physician should captain

***TABLE 1**
The Major Clinical Features Differentiating Pseudodementia from Dementia

Pseudodementia	Dementia
Clinical course and history	Family often unaware of dysfunction and its severity
Family always aware of dysfunction and its severity	Onset can be dated only within broad limits
Onset can be dated with some precision	Symptoms usually of long duration before medical help is sought
Symptoms of short duration before medical help is sought	Slow progression of symptoms throughout course
Rapid progression of symptoms after onset	History of previous psychiatric dysfunction unusual
History of previous psychiatric dysfunction common	Patients usually complain little of cognitive loss
Complaints and clinical behavior	Patients' complaints of cognitive dysfunction usually vague
Patients usually complain much of cognitive loss	Patients conceal disability
Patients' complaints of cognitive dysfunction usually detailed	Patients delight in accomplishments, however trivial
Patients emphasize disability	Patients struggle to perform tasks
Patients highlight failures	Patients rely on notes, calendars, etc., to keep up
Patients make little effort to perform even simple tasks	Patients often appear unconcerned
Patients do not try to keep up	Affect labile and shallow
Patients usually communicate strong sense of distress	Social skills often retained
Affective change often pervasive	Behavior usually compatible with severity of cognitive dysfunction
Loss of social skills often early and prominent	Nocturnal accentuation of dysfunction common
Behavior often incongruent with severity of cognitive dysfunction	Attention and concentration usually faulty
Nocturnal accentuation of dysfunction uncommon	Near-miss answers frequent
Clinical features related to memory, cognitive, and intellectual dysfunctions	On tests of orientation, patients often mistake unusual for usual
Attention and concentration often well preserved	Memory loss for recent events usually more severe than for remote events
"Don't know" answers typical	Memory gaps for specific periods unusual ^a
On tests of orientation, patients often give "don't know" answers	Consistently poor performance on tasks of similar difficulty
Memory loss for recent and remote events usually equally severe	
Memory gaps for specific periods or events common	
Marked variability in performance on tasks of similar difficulty.	

^aExcept when due to delirium, trauma, seizures, etc.

*from Wells³

this broad therapeutic team but many times a nurse specialist or nurse practitioner can be the most useful member in managing the care.

The overall goal of treatment is that the patient recovers as much of his normal function as is possible and works toward as nearly premorbid level of function as modern medicine can achieve.

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Trauma: What's New and Over the Horizon**

Kenneth L. Mattox, M.D., F.A.C.S.*

Present innovations and future projections can only be measured in relationship to past medical history. Advancements in the care of the trauma patient have not only paralleled advances in medical progress, but frequently have led the way to discoveries in physiology and specific treatment. Trauma advances can be approached from what has occurred in the last three thousand years, the last fifty years, and the last five years.

Present advances in trauma care can be analyzed from the standpoint of new logistics, new instrumentation, new concepts, and the treatment of specific organ injuries. Logistically, the newest concept in patient care is through *Trauma Center* designation. Standardized trauma index severity codes coupled with the trained trauma surgeon availability will make designated Trauma Centers more workable. The Advanced Trauma Life Support Course will add an understanding of the care of the trauma patient to existing basic medical knowledge. Such Advanced Trauma Life Support education will be directed at first responding physicians.

New concepts include the development of emergency medical services systems to serve as vehicles for the entry into trauma facilities. Altering philosophies of the use of colloid and crystalloid solutions as resuscitative fluids and the use of potent drugs such as loop diuretics are presently in a state of evolutionary flux. The development of broad spectrum and potent antibiotics which will reduce postoperative infection and/or treat specific infection are presently on the drawing board.

Presently being developed are new trauma devices and instruments. Such instrumentation includes autotransfusion, radiant warming devices, electrical stimulating devices to expedite bone healing and improved trauma resuscitative suites within an emergency center capable of providing x-ray even during resuscitation.

Many advances have been made in specific organ treatment. The use of drugs to prevent or reduce the extent of brain swelling in neurosurgical trauma has been coupled with improvements in monitoring techniques. Orthopedic injuries have been aided by the use of external supportive

devices and electro-stimulation. An understanding of the immunological aspects of trauma has opened up new vistas of research. The ability to repair the spleen and surgical techniques to reduce postoperative complications from complex pancreato-duodenal injury are examples of recent advances in the management of abdominal trauma. Vascular trauma is better treated because of a better understanding of substitute conduits, vascular control, and even the development of a graft which does not require suturing for insertion. Two different concepts of artificial blood have been developed (stroma-free hemoglobin and fluorocarbon solutions) as oxygen carrying resuscitative fluids.

Within the last three to five years, time honored concepts in trauma have become reversed. These include acceptability of packing the liver for massive injuries, splenorrhaphy for splenic trauma (rather than splenectomy), albumin as being a potential dangerous solution (rather than a specific plasma expander), the ability to use Dacron and PTFE grafts in potentially contaminated wounds (rather than saphenous vein), and the concept of conservatism in penetrating and blunt injuries to the abdomen.

There are exciting research protocols involving trauma. Impact physiology, with an aim toward preventing injury, is underway in the areas of passive restraint and energy attenuators such as air bags. Artificial skin for large surface loss will be applicable to victims of high velocity gunshot, shotgun and burn injuries. The possibility of accelerating wound healing is an exciting concept. The alterations in liver metabolism during shock and trauma are many fold. The treatment of hypothermia, its protective effects and the potential of repairing injuries during circulatory arrest in hypothermia are exciting research areas. The ability to perform extracorporeal ("Bench") surgery on injured organs is still in its infancy. The ability to control infection through new families of antibiotics is under present investigation. The control of the endothelial cell will reduce not only pulmonary insufficiency, but also the fluid sequestration in the third space. Resuscitation solutions containing high energy phosphates provide an exciting horizon for the treatment of shock. Control of hypovolemia or chronic

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dehydration and its effect on hemorrhagic shock is just beginning to be studied.

Just over the horizon are still other exciting areas in the field of trauma research. Continuation of the development of artificial blood and high energy phosphate solutions coupled with the development of even more innovative instrumentation such as easily insertable cardiopulmonary bypass and extracorporeal support devices whet the research appetite. The adaptation of extracorporeal cardiac support devices which have been used for cardiac surgery will find its way to the care of the injured patient. New drugs will be developed to prevent brain swelling, and techniques to prevent spinal cord injury are just around the corner. A satisfactory integument for the treatment of burn patients will be coupled

with an ability to control loss of immunocompetence. The concept of control of infection using biologic symbiosis may render antibiotics unnecessary. In cases of loss of immunocompetence, however, new families of antibiotics will be developed.

As in the past, a number of present treatment modalities may disappear. These include prehospital external cardiopulmonary resuscitation of the patient who is obviously dead from penetrating or blunt truncal trauma. Limb reimplantation, especially legs and arms between the shoulder and distal forearm, may decrease in popularity. The broad and indiscriminate use of prophylactic antibiotics will result in a reduction of resistant strains of bacteria. Still other concepts which were once thought to be "gospel" will find their way into the historic scrapbook.



Closed Intramedullary Nailing of the Femur^{**} With A Kuntscher Nail

Michael J. Weber, M.D.*

INTRODUCTION

Treatment of fractures by closed intramedullary nailing has been a reasonable form of treatment since the development of the portable image intensifier in the mid 1950's. Some surgeons have presented excellent results, however, this procedure has still not obtained wide acceptance on the North American continent. This is presumably due to the fact that the procedure has been felt to be too technically demanding for routine adoption. Two questions then are readily apparent. First, is the procedure so technically demanding that it can only be performed by its inventor and a few large institutions? Second, are the good results of the original author reproducible? It is these questions that we attempted to address at Arkansas.

In 1944 Bohler published his text on the Kuntscher method of closed intramedullary nailing of fractures of long bones. Kuntscher's method consists of the insertion of a long, strong and suitably shaped steel rod, the clover leaf nail, through a small incision distant from the fracture site. He used fluoroscopic radiographic control to obtain reduction and drive a medullary nail across the fracture. In 1950 Kuntscher began reaming the medullary cavity and in 1954 flexible reamers for use over guide wires were developed. The development of the portable image intensifying fluoroscope mounted on a C-arm in the 1950's greatly facilitated Kuntscher's surgical technique. Bohler presented results of twenty-nine closed intramedullary nailings of femur fractures done between 1943 and 1948. Key points in his results were a zero infection rate and a zero nonunion rate. Bohler had only had two patients with knee motion less than 90°. His excellent results were not easily reproducible and his indications were quite narrow with less than 15% of the femur fractures presenting to his institution being considered suitable candidates. Most of the surgeons in this country continued to use closed non-operative methods during this era. Nichols elucidated

the advantages of intramedullary nailing over closed treatment in 1963. Because of the advantages of early mobilization, excellent reduction and improved knee motion, many surgeons in this country adopted intramedullary nailing for femoral shaft fractures, but continued to open the fractures for technical reasons. In 1969, Rokkanen, et al, compared results of closed intramedullary nailing with open intramedullary nailing and traction with spica cast treatment. In their hands not only were the patients mobilized earlier but their results compared favorably at one to four year follow-up with less residual deformity and less residual joint stiffness. These results were confirmed by Clawson, et al, and Rascher, et al, in the early 1970's in this country. American surgeons have still been slow to adopt closed intramedullary nailing in spite of these results. Closed intramedullary nailing was introduced at our institution in 1976. Since that time we have performed over 110 closed intramedullary nailings of femoral shaft fractures. I would like to present the technique as we perform it and present our results.

PATIENT SELECTION

Patients are selected who have fractures of the shaft of the femur lying between the levels of 2 cms. below the lesser trochanter and 7cms. above the adductor tubercle. If there is comminution this should involve less than 50% of the circumference of the femur.

OPERATIVE TIMING

We feel that closed intramedullary nailing of the femur should be performed as soon after injury as is technically feasible. If performed shortly after admission skeletal traction is not even required to affect a reduction. If immediate surgery is not feasible, this can be performed as much as two weeks post injury. If there is any delay in surgery, skeletal traction with a tibial or femoral pin is mandatory. Traction should be adequate to provide slight distraction at the fracture site. Without distraction at the fracture site the reduction may be impossible closed.

TECHNIQUE

The patient is given a general or regional anesthesia and is put in the lateral decubitus posi-

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tion. The lower extremities are placed in traction in such a manner that the affected side is flexed and adducted at the hip with the knee straight. The pelvis is inclined slightly so that the hip on the affected side is slightly anterior to the hip on the unaffected side. This allows a lateral x-ray projection to be made of the insertion site. The affected limb is internally rotated so that the fracture is anatomically aligned. The C-arm image intensifier is then used to check the quality of the reduction which can be modified by increasing or decreasing the amount of traction or flexion. The skin is prepared in the usual fashion but the draping must be performed so that the movement of the image intensifier does not result in contamination. We use a clear plastic drape which functions as a curtain on the operative side keeping the image intensifier covered when in the horizontal position. One must remember to keep this area clear of assistants and Mayo stands because movement of the C-arm brings drapes from below the sterile field to a height that could inadvertently cause contamination.

An incision is made less than 4 cms. in length just proximal to the tip of the greater trochanter in line with the shaft of the femur. This is sharply carried through the abductor musculature so that the surgeon's finger can palpate the sulcus between the trochanter and the neck of the femur. A sharp diamond pointed awl is then inserted into the sulcus between the neck and trochanter and check x-rays are taken with the image intensifier to insure that the awl is positioned directly over the medullary canal of the femur in both the AP and lateral projections. The awl is then pushed into the femur at this point and withdrawn. The hole can be enlarged with an 8 mm. hand reamer. Check x-rays should also be taken of this procedure to insure that the hand reamer is within the medullary canal of the femur. The 90 cm. ball-tipped guide wire is then inserted using the T-handle for control. The tip of this guide wire should be bent slightly, like the tip of an angiography catheter, to allow passage across a less than perfectly reduced fracture site. Check x-rays should be taken in both planes to insure that the guide wire is within the medullary canal. It is then passed, using x-ray control, across the fracture site. Any residual malreduction can be corrected for passage of the guide wire in one of two ways: first, an unscrubbed surgeon can

manipulate the fracture manually from under the drape. Secondly, a 9 mm. Kuntscher nail can be inserted into the proximal femur over the guide wire allowing the operator to have manipulative control of the proximal fragment. When the tip of the guide wire has passed the fracture site x-rays should be taken again in two planes to insure that the guide wire is within the medullary canal of the distal fragment. The guide wire is then inserted distally using the image intensifier for control until the ball tip has penetrated the epiphyseal scar of the distal femur. The appropriate length nail is then chosen by using an identical guide wire inserted so that its tip is at the top of the greater trochanter. That portion of the second guide wire which protrudes proximally beyond the first guide wire is the same length as the amount the first guide wire is within the medullary canal. One must take into account at this point any residual distraction at the fracture site or comminution. Reaming is then performed progressively using cannulated flexible reamers. Beginning with a small end cutting reamer the operator reams across the fracture site. The reamers are sequentially advanced in size at 1 mm. increments until the operator notes resistance to the passage of the reamer at the isthmus of the medullary canal. The reamers are then sequentially advanced at one-half mm. increments until an appropriate size is reached. The appropriate size is known when, for fractures in the proximal one-half of the femur, there is solid contact of the reamer head for a distance of at least 2 and one-half cms. on both sides of the fracture site. For fractures in the distal one-half of the femur reaming cannot advance to the point that this kind of contact would be realized in the distal fragment. For these fractures we ream the femoral canal from 13 to 14 mms. in females and from 14 to 15 mms. in males. No reaming is performed in the distal fragment. When the reaming has been completed a second guide wire is inserted which has a larger diameter than the reaming guide and allows passage of the nail without further comminution of the fracture site. This driving guide wire should be inserted prior to removal of the reaming guide and should be checked with biplane image intensification prior to removal of the reaming guide. The appropriate length and diameter nail is then inserted over the driving guide using a driver which allows the free passage of the nail driving guide

through its handle. The nail is driven across the fracture site with multiple light blows until it is approximately 2 and one-half cms. into the distal fragment. If the nail is extremely difficult to drive then something is wrong. At this point, using image intensification control, the traction is released from the extremity, the rotational alignment is checked and angular alignment is assured. At this point the nail can be driven home. An adequate nailing is one in which the fracture is well reduced. The distal end of the nail should be centrally located in the distal femur and its tip should penetrate the old epiphyseal scar by approximately 1 cm. The nail length is proper if its proximal tip is even with the tip of the greater trochanter. We recommend that the position of the nail in the greater trochanter also be checked using the image intensifier. If the nail is left proud at the level of the greater trochanter, bursitis and an abductor gait can mar the otherwise excellent result. The wound is irrigated and closed loosely to allow for any drainage that may occur.

POST-OPERATIVE MANAGEMENT

Post-operatively the patient's extremity is placed in a derotation splint which insures that the foot remains upright while the patient is in bed. This splint should not be removed until the patient regains control of his quadriceps mechanism. It has been our experience that regained control of the quadriceps occurs at any time from immediately post-op up to 72 hours post-op. Following this the patient can be mobilized in physical therapy with weight bearing being determined by the degree of comminution of the fracture site noted initially. Noncomminuted fractures can bear full weight as soon as this is tolerated. The more comminuted fractures should be protected with partial weight bearing until there is early evidence of consolidation of the fracture site, usually four to six weeks. We have removed the intramedullary nail at 18 months to 24 months following the insertion. There is no scientific evidence either for or against removal of the nail.

RESULTS

Our results represent the compilation of our first 100 patients during which time we were learning this procedure. Epidemiologically, this is a disease of young males. The operating time averaged 2 hours, ranging from only 45 minutes

to 3 hours with an additional hour of anesthesia time, primarily for set-up and reduction. Blood loss averaged approximately 400 cc's with only 12 patients in the series requiring transfusion. These were from the poly-trauma category. The hospital stay averaged 11 days in patients without associated injuries. In the poly-trauma patients the duration of hospital stay was frequently determined by their associated injuries. All patients without associated injury were walking partial weight bearing at the time of discharge. The union rate was 100% but one patient required replacement of a small nail with a larger nail to obtain union. I would like to present that patient in more detail. This patient was a 56-year-old white male who had a transverse mid-shaft fracture of the femur as an isolated injury. He was treated with a small Kuntscher nail which did not completely fill the isthmus. He did not ever have effective pain relief and at 6 months had no evidence of union. Close observation of the x-rays revealed a "windshield wiper" effect in the distal femur and the nail was backing out. The nail was replaced with a larger one completely relieving all pain. He was not bone grafted but healed rapidly.

All patients had knee motion for 0 to greater than 90° and only one patient had more than 15° limitation when compared to the nonfractured side. This patient had an open fracture with soft tissue trauma to her quadriceps. Her final range of motion was from 0 to 115° of flexion. Ninety percent of the remaining patients had a range of motion within 15° of the normal extremity by 6 months. Sixteen patients were discharged with a cast-brace which was worn for 6 weeks. These were patients with comminuted fractures or ipsilateral tibial fractures. Immobilization was not used on routine midshaft transverse fractures. The complications encountered on this early group of patients were minimal. There were no nonunions, no deaths and no amputations. There was one deep infection.

The patient was a poly-trauma patient with an ipsilateral grade III open tibia and a closed fracture of the femoral shaft. He was treated acutely with debridement, external fixation of the tibia and closed intramedullary nailing of the femur. He drained from the tibia but was discharged after the wound was controlled. Approximately 2 months later he presented with fever and an abscess in his buttock. Incision and

drainage of the abscess revealed pus coming from the medullary canal. This was irrigated and the wound allowed to closed by secondary intention. The fracture united without further incident and the nail was removed.

There was one malunion in a patient who was noted to have approximately 65° of external rotation post-operatively. The patient walked with a significant out-toeing deformity but declined the second anesthetic to correct his alignment. No patient lost any reduction, either varus, valgus or rotatory after the initial treatment. Ten patients had their nail improperly placed. In these patients the nail was left protruding greater than 1 cm. above the tip of the greater trochanter. In all ten patients there was additional room to drive the nail to the appropriate position. Seven of these ten complained of trochanteric pain. No other patient complained of trochanteric pain after 6 weeks. In five patients the proximal fragment was further comminuted during reaming. All of these patients were discharged with a cast-brace supplementing their immobilization and without delay in weight bearing.

DISCUSSION

Historically the problem associated with treatment of fractured femurs in adults by closed means have been nonunion, malunion, prolonged hospitalization, knee stiffness and fracture disease. With open means infection and an unsightly scar may be added to this list. In our series, all of these usual problems were nearly eliminated. The results presented were those obtained during the developmental stages of learning the surgical technique. In spite of this,

we had only one infection without significant sequellae, no nonunions, excellent knee motion and excellent alignment. The complications are a reflection of our experience. With close attention to detail most complications can be avoided. We now use the C-arm image intensifier to insure that the starting hole is perfectly aligned with the medullary canal of the femur. We believe that this reduces the incidence of further comminution of the fracture during reaming and nail insertion. We also use the image intensifier to insure that a nail of appropriate length has been chosen and that it has been driven to the appropriate depth. We have found that this has completely eliminated irritation secondary to a nail which protrudes from the trochanter. Our results seem to confirm the experience of the Seattle group and appear favorable to other forms of treatment. It is true that a second surgical procedure may be required for nail removal and this appears to be the major drawback of this treatment regimen. From a cosmetic point of view there is little comparison of the small nonspreading scar on the buttock with the large, frequently unsightly scar, required for open nailing. It is for these reasons that we are advocating closed intramedullary nailing for the treatment of most fractures of the femoral shaft. We have found that even in inexperienced hands excellent results are obtainable and these results only improve with experience. This is not to say, of course, that slipshod technique or improper patient selection would allow satisfactory results, but that with attention to detail closed IM nailing using the Kuntscher technique is safe and effective.



Arthrography and Cost Containment

Robert M. Tirman, M.D.*

In this era of soaring costs for everything, it's expensive to be born and even more costly to die. Probably the cheapest thing is to stay alive, for at least you may have time to figure out ways and means to reduce the overhead.

The phenomenal price rises in medical care reflect the present continual upward spiraling trend in the cost of living. Hospitals and medical groups now have cost containment, quality assurance and patient-care evaluation committees attempting to explore every avenue of medical endeavor to be able to provide optimum service while striving to avoid those measures which would tend to reduce the high standards of medical care. In the past decade, there have been considerable advancements in technical development and refinement of techniques that have allowed many procedures that formerly required hospitalization to be performed on an outpatient basis. Surgical clinics that permit the patient to return home in a few hours after certain types of surgery are now in vogue.³ Tuberculosis and other diseases may now be evaluated and treated on an outpatient basis in many instances.

The progressive simplification of radiologic procedures made possible by improvements in apparatus and imaging has opened up avenues of medical care not previously available. These advances have resulted in expediting medical management in the hospital, in the clinic and in office practice. Arthrography is a natural outgrowth of these modernizing developments. The newer contrast media are safer for the patients and less or non-irritating locally. Factory-packaged disposable arthrography-sets further facilitate accomplishing the examination. Arthrography refers to visualization of the interior of a synovial-lined joint with either a single contrast agent which may be a water-soluble iodinated product or with double contrast, mixing room air with the positive contrast agent. In cases with a strong history of allergy to iodinated solutions, air alone has been used at various joint sites with success.

Conventional radiographic examination of a joint has limited diagnostic value. The apparent

joint space between the subchondral articular cortices is of uniform soft tissue density. The articular cartilages are radiographically invisible and fibrocartilaginous and ligamentous structures present in the interior of various joints cannot be detected on the film. Non-calcified cartilaginous loose bodies are also unpreceivable. Changes in bone which secondarily reflect degenerative or traumatic insult to a joint can be seen as indirect evidence of intra-articular pathology. These may be cystic-appearing radiolucent areas and/or sclerosis associated with degenerative joint disease and with marginal spurring, or lytic areas of frank destruction as occurring in rheumatoid arthritis and some other arthritides. Fluid within a joint may be sufficiently voluminous to widen the space and its presence may be further detectable by displacement of extra-synovial fat lines. The plain film will otherwise offer no information as to the integrity or character of the synovial joint lining. Tomography will likewise be non-revealing in such an instance, although it may show a small loose body or bodies if calcium-containing and it will give a better detailed visualization of changes in the adjacent bony structures.

In the work-up of any joint disability where the clinical findings are not conclusive and where clinical management is not completely effective with persistence of symptomatology, arthrography should be performed. Arthrography offers a very good possibility of providing the answer to the referring physician's dilemma as to the cause of the joint disability.^{1,4-9} There are distinct advantages for both the doctor and the patient in utilizing this procedure. The patient does not need to be hospitalized. The examination is done in the radiology department and the entire procedure, including all necessary filming, rarely goes beyond an hour, often less, depending upon variables such as the experience of the radiologist, the smoothness of teamwork in his technological assistance, the joint involved, extent of joint damage and other pertinent factors. Arthrography is a procedure that provides diagnostic information that can otherwise only be obtained by direct surgical exploration and scrutiny.¹ The increasing use of arthrography in the past few years has led to a greater understanding of the soft tissue anatomy and functional role of specific joints of

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the body.¹⁰ Direct fluoroscopic visualization and tomography have facilitated the procedure and led to its wider acceptance and application in diagnostic work-up.

In our facility, as elsewhere, the most frequent arthrograms performed are those of the knee

joint, with the shoulder joint second in frequency. (Figures 1 and 2) Other joints in which arthrography is used are the elbow, wrist, hip, ankle, temporomandibular, acromio-clavicular, sterno-clavicular and small joints of the fingers and toes.

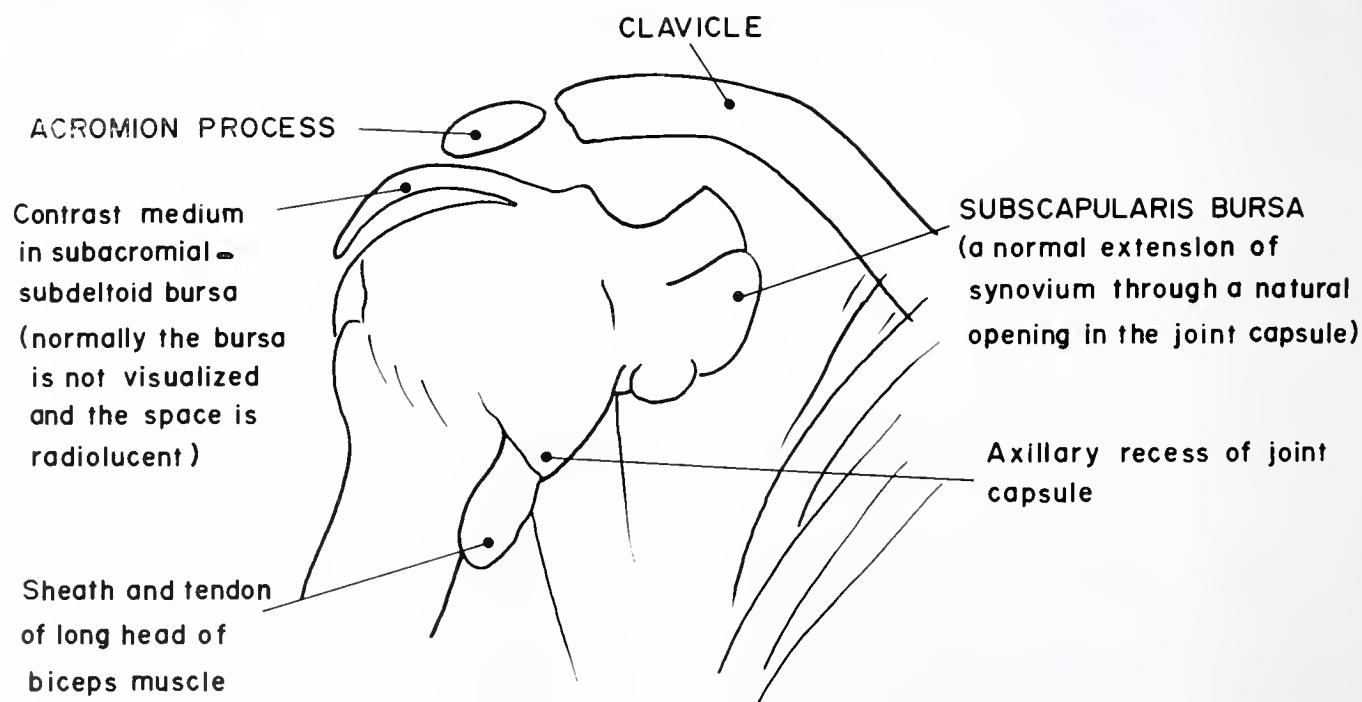
Indications for arthrography vary with the



A. Shoulder arthrogram showing a complete rotator cuff tear with positive contrast medium in the subacromial-subdeltoid bursa. In the normal shoulder, this bursa is separated from the shoulder

Figure 1.

joint by the rotator cuff and contrast cannot enter the bursa. Such a finding as illustrated here is diagnostic and enables the surgeon to decide on the course of management without delay.



B. Line drawing of A.

joint in question. Certain generalizations may be made, however. Chronic disability, so-called internal derangements, pain and any other factor that reduces function or interferes with it should be evaluated with arthrography, particularly if surgery is contemplated as a possible solution to the problem.⁷ Tomography in conjunction with arthrography (arthrotomography) increases the diagnostic yield. It has been particularly helpful in the shoulder in cases of recurrent dislocation where it is done immediately after double con-

trast examination filming to reveal or exclude avulsion of a portion of the glenoid labrum.² In the knee, it should be mentioned that arthroscopy is also very diagnostic and arthroscopy and arthrography complement each other.

The few contraindications are hypersensitivity to iodinated contrast media (in which case, as already indicated, air alone may be tried and may be diagnostic) and allergy to the local anesthetic. In the knee, some arthrographers often perform this study without anesthesia.⁴ In other joints,

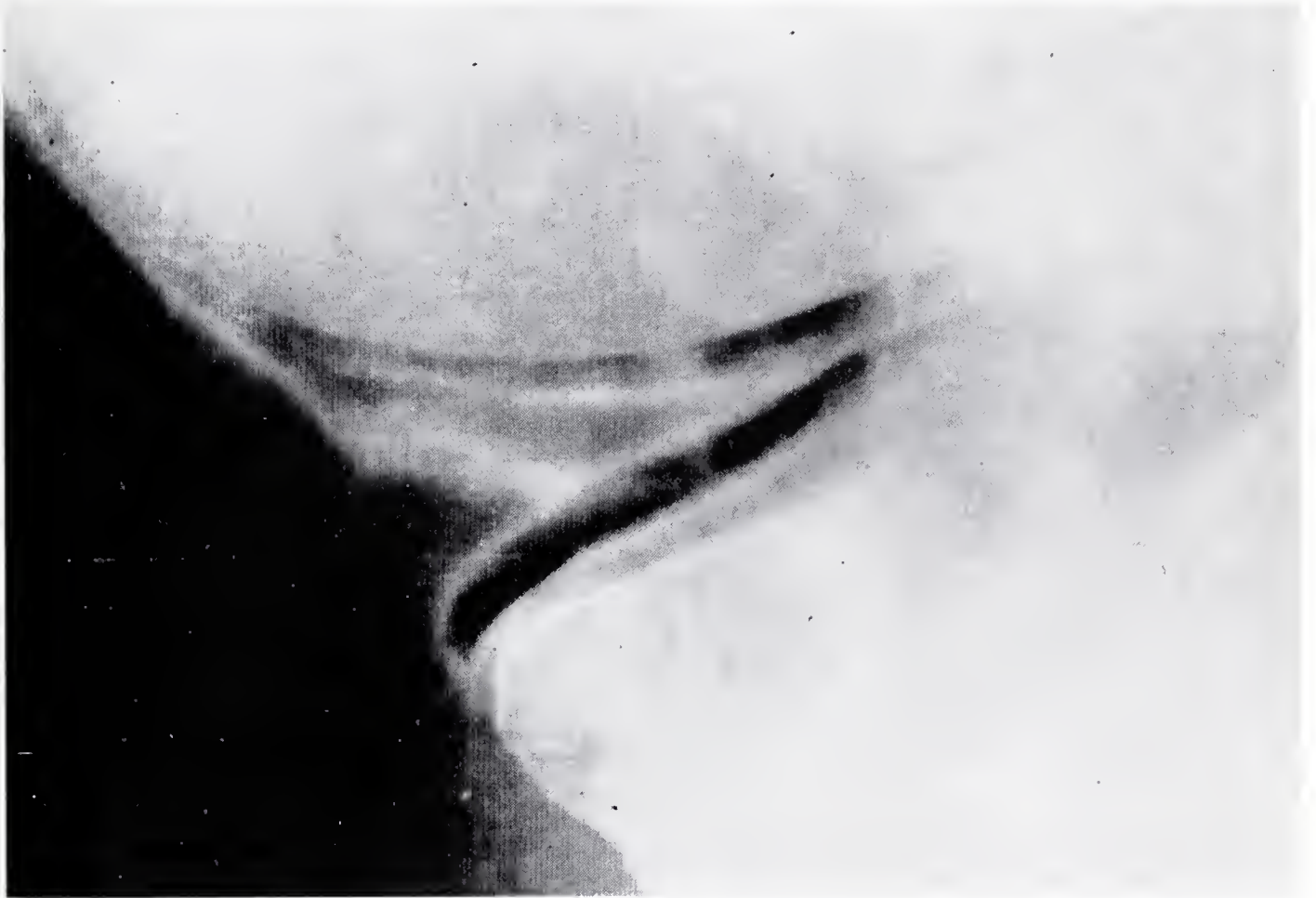
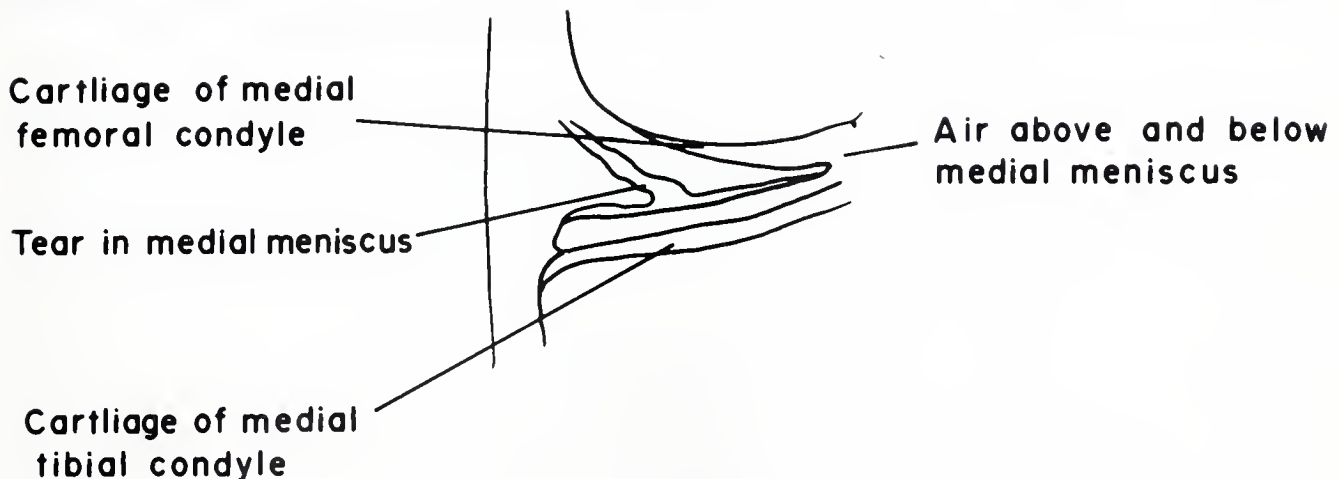


Figure 2.

A. Knee arthrogram demonstrating a tear in the medial meniscus. The finding is clearly diagnostic and surgery can be performed without further work-up, thus saving the patient multiple office

or clinic visits and reducing the total expense as well as eliminating dysfunction, disability and associated pain.



B. Line drawing of A.

the examination cannot be done without preliminary local anesthesia to avoid pain. Furuncle or other skin infection at the site contemplated for injection would constitute a temporary contraindication until this is cleared up. A septic joint aspirated for culture specimen can have positive contrast injected and an arthrogram thus accomplished at the same time.

If an arthrogram is done within two weeks of needle aspiration of a joint, a culture specimen should be sent to the laboratory for medico-legal protection since such a joint may be carrying infection. In the experience of Freiburger and Kaye in a series of over 25,000 arthrograms, only one infection of a knee joint occurred.² This is a preventable occurrence and with proper application of sterile technique will not occur.

SUMMARY

From the standpoint of cost containment, arthrography is a practical procedure. It is definitive and diagnostic, shortening the period of treatment thereby and enabling the referring clinician to decide on the question of surgical correction or amelioration versus medical management. It is a relatively easy procedure for the experienced arthrographer with few or no complications. The incidence of infection is practically non-existent and is preventable with careful technique. The procedure is very short in time, does not require hospitalization and usually does not impose added restrictions on the use of the examined joint. In short, arthrography saves time and

money both for the patient and his physician and should be used more often.

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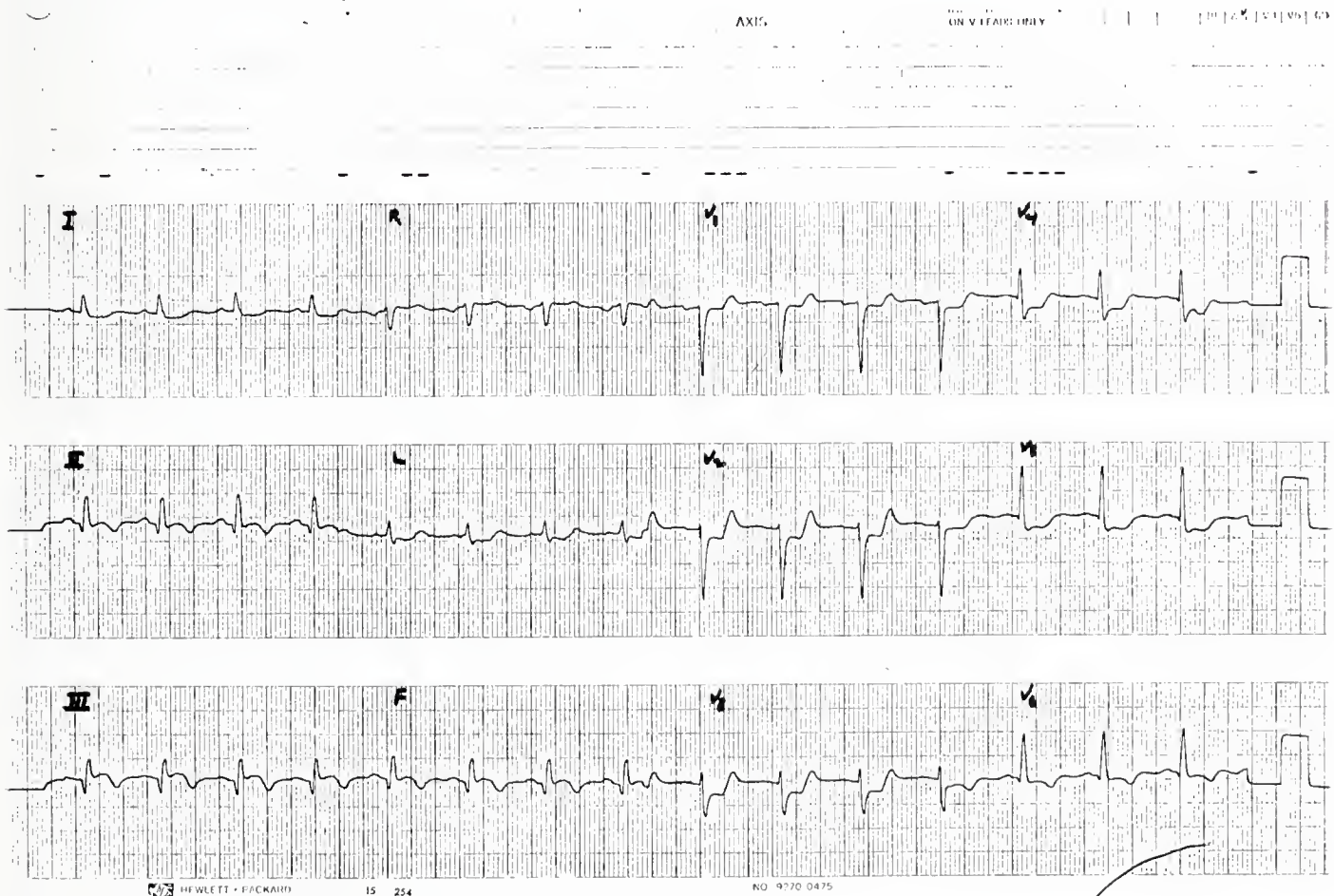


The Department of Cardiology, University of Arkansas College of Medicine
(See Answers on Page 476)

O. C. is a 57-year-old male smoker who presented to the hospital because of crushing substernal chest pain associated with nausea and diaphoresis. An atrial gallop was present on cardiac examination. His initial CPK drawn four hours after the onset of pain was twice normal. Shown here is an ECG obtained during his early period of hospitalization.

Realizing that controversy exists with respect to some of the points raised below, please use his trace and the other information provided to help answer true or false to these statements:

1. He has sustained inferior myocardial infarction.
2. The ST depression present in I, AVL, and the anterior precordial leads represents only "reciprocal" changes due to inferior infarction.
3. This patient with anterior ST depression associated with inferior infarction is likely to have angina over the next six months.
4. This patient is likely to develop congestive heart failure during his hospitalization because of the loss of a critical amount of myocardium.
5. This patient is unlikely to experience early ventricular rhythm disturbances such as premature ventricular beats or ventricular tachycardia.



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EDITORIAL

Hospitals and Public Needs

Alfred Kahn, Jr., M.D.

There are trends in medical affairs which physicians should note, study, and act on. Some directly concern the practice of medicine; some trends touch the practice of medicine tangentially yet they carry significant importance.

The relationship of the physician and the hospital is of considerable importance — as well as the relationship of the hospital with the community. In general, our hospitals have been exceptionally well run. They are staffed by competent community-minded administrators. For the most part, the Boards of Trustees of the hospitals are leading citizens who are devoting valuable time to try and promote the health and welfare of the community. Despite the desire to do outstanding work on the part of the administrators and the Boards of Trustees, there are some new directions in hospital activity which demand contemplative scrutiny by the physicians, the hospital administrators, and the Boards of Trustees of the hospitals — all of whom are working with dedication for the public.

Perhaps one of the most important new happenings is the growth of hospitals — in every sense of the word — laboratories, beds, equipment, convalescent areas, physician office buildings, etc. Before such a subject can be properly scrutinized, the question arises what is the goal of the hospital in our society. Without trying to define the various types of hospitals and their local programs, one could say that the general conception of the hospital's role is to care for the non-ambulatory sick, surgical cases, obstetrical cases, and complicated medical cases — in short, to provide a place for medical care for cases which cannot be handled as ambulatory office patients. When the hospital drifts from this role it pays a penalty by running up the cost of medical care — as ambulatory patient's expenses are manifestly much

less than if he has to pay to stay in an expensive institution where he is supplied with food, bed and nursing care. Thus, for hospitals to get into the care of patients who are ambulatory is very wasteful.

New on the horizon is another trend among hospitals: the establishment of chains of hospitals. This opens up a real figurative can of worms. First of all, why have hospital chains. About the only answer is that they can effect some savings in purchasing and perhaps in administration — but is it worth the cost. The debt side is that chains of hospitals may alter the styles and character of medical practice; there are a number of tenacles that will reach out from the hub hospital and affect the outlying hospitals. Foremost amongst the problem areas is the probable change in referral practice. Currently, physicians tend to refer to physicians with whom they are acquainted by professional reputation; there is a grave possibility that in hospital chains patients in the outlying hospitals will tend to be referred to the hub hospital or its staff of physicians almost automatically; physicians who are not on the hub hospital staff may see a grave erosion of their practice. A hub hospital can do some things for a physician that the physician cannot do for himself — as indirect advertising by publicizing their staff physicians through brochures, furnishing staff programs, etc. In other words, the lines of referral may follow administrative ties rather than by individual professional reputation.

The hub and spoke relationship between large and small hospitals will put a special stress on the boards of trustees. Will decisions of the hub hospital board override the decision of the board of the satellite hospital — or will there even be a local board for the satellite hospital. Is it possible for the hub hospital board to have enough

time to adequately administer the affairs of a chain of hospitals with varying administrative and professional needs? How will the trustees finance the purchase of satellite hospitals — who pays for these hospitals — does the patient through higher hospital charges in the hub hospital? If the hub hospital earns money to pay for these outlying hospitals is it an eleemosynary institution any longer? Is the hospital tax exempt?

If hospital chains grow, there is the possibility that they will invite state control commissions not unlike utility commissions. A large grid of hospitals under the control of one organization would be a significant force in any state even though a monopoly would not possibly be a foreseeable possibility.

Privately owned hospitals still prosper in this state. Theoretically, they should not be able to compete with non-profit hospitals — as the privately owned hospital has to earn a profit. The fact that private hospitals can operate profitably in competition with non-profit hospitals indicates that the private hospital either operates

more efficiently, does not offer non-earning services, fails to allocate money to train ancillary personnel, etc. Private hospitals do compete successfully with non-profit hospitals — and it is somewhat like the World War II B-26 bomber with its tiny wings that should not have been able to fly, but it did.

Lastly, physicians should consider their positions in relation to health care as offered individually and as rendered in the hospitals. Who should make the decisions concerning health care problems? Should the physician who is trained technically to care for the individual patient? Should the administrator of hospitals who is trained to integrate non-professional services into a performing institution? Should it be representatives of the public who know what they want but are not knowledgeable about medical institutions? In the final analysis the role of the health care worker, be he physician or administrator or volunteer trustee is to care for the needs of the public and to supply these services within a fair cost range. All of these groups need to work together to achieve the goals of the hospitals.



*"From Other Years"**

(From UAMS Library, History of Medicine Archives Division.)

Journal of the Arkansas Medical Society
2:361-2; February 1892

—THE GREAT NORTHWEST has lost two of its best physicians, Drs. J. T. Clegg of Siloam Springs, and T. A. Coffelt of Pea Ridge; both in Benton County. Dr. Clegg has moved to Dallas, Texas, and Dr. Coffelt to St. Louis, Mo. There is no part of Arkansas from which as many good physicians could go and yet leave as many there. The JOURNAL regrets the loss to Arkansas, and wishes them prosperity in their new fields.

—THE HOT SPRINGS MEDICAL JOURNAL has made its appearance, and looks as fresh and neat as a twenty-one-time bather just ready to start for home. It is beautifully gotten up, contains twenty-four pages of reading matter, and gives promise of future growth and usefulness. It is conducted by Drs. J. M. Keller, S. W. Franklin, Thomas E. Holland and J. C. Minor, all well-

known resident physicians of Hot Springs except Dr. Holland, who has recently gone there. The JOURNAL "hopes to become the mouth-piece of the local reputable faculty of Hot Springs. It will be, as far as possible, impersonal in its conduct, fearless in its presentation of medical facts and theories, courteous in its intercourse with the medical press, and unsparing in its denunciation of every infraction of medical ethics. With these aims and aspirations, it presents its claims to the profession with modest confidence, and asks from its contemporaries a fraternal welcome and a cordial God speed." The JOURNAL does give its new-born contemporary "a fraternal welcome and a cordial God speed," and — yes, if occasion demand, as it may, the assistance of that mysterious individual whose habitat is by many believed to be where the boiling waters of the Valley indicate that such a spirit might thrive, THE JOURNAL will, by proxy, endeavor to enlist his services in behalf of those who may find it necessary to fight the — battle with fire.

MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

The Medicaid program would be federalized and responsibility for some \$47 billion worth of now federal programs would be shifted to the states in a dramatic proposal for governmental realignment called for by President Reagan in his State of the Union address.

The President said that starting in fiscal 1984 (a year from next October), the federal government "will assume full responsibility for the cost of the rapidly growing Medicaid program to go along with its existing responsibilities for Medicare."

At the same time the President advanced a "bold, innovative program" of returning some \$47 billion of federal programs to states and localities over a 10-year period.

"As part of a financially equal swap, the states will simultaneously take full responsibility for such programs as Aid to Families with Dependent Children (AFDC) and food stamps. This will make welfare less costly and more responsive to genuine need because it will be designed and administered closer to the grass roots and the people it serves."

Complete details of the program shifts won't be known for a while. But it is known that the following health related programs will be turned over to state jurisdiction:

- Child Nutrition
- Child Welfare
- Child Abuse
- Social Services Block Grant
- Prevention Block Grant
- Alcohol, Drug Abuse & Mental Health Block Grant
- Primary Care Block Grant
- Maternal & Child Health Block Grant
- Primary Care Research & Development
- Black Lung Clinics
- Migrant Health Clinics
- Family Planning
- Women, Infants & Children (WIC)

Other programs that apparently would revert to the states include school lunch program, vocational rehabilitation, energy aid for the poor,

water and sewer grants, aid for highways outside the interstate system, block grants for social services and community services, and others.

"In a single stroke, we will be accomplishing a realignment that will end cumbersome administration and spiraling costs at the federal level while we ensure these programs will be more responsive to both the people they are meant to help and the people who pay for them," President Reagan told Congress.

Under the swap, the federal government will apply the revenue from certain excise taxes to a grass-roots trust fund for the states. Some \$28 billion a year will flow into the fund. By 1988 the states would be in complete control of more than 40 federal grant programs. The trust fund would start to phase out and the excise taxes would be turned over to the states.

The states would be given wide leeway on how to use their share of the trust fund. They could use it to pay for federal grants in areas such as transportation, education and social services; or they could use it for other purposes.

Both Medicaid and Medicare were marked for economies by the President who pointed to these programs in declaring that he will propose savings of \$63 billion over four years in entitlement programs.

No specific dollar savings were mentioned for the two health programs, but the Administration has been considering slashes totaling \$5 billion a year.

Medicare and Medicaid are programs "with worthy goals," said President Reagan, but "their costs have increased from \$11.2 billion to almost \$60 billion, more than five times as much, in just over 10 years."

Said the President:

"Waste and fraud are serious problems. Back in 1980, federal investigators testified before one of your committees that 'corruption has permeated virtually every area of the Medicare and Medicaid health care industry.'

"One official said many of the people who are cheating the system were 'very confident that nothing was going to happen to them.'

"Well, something is going to happen. Not only the taxpayers are defrauded. The people with real dependency on these programs are deprived of what they need because available resources are going not to the needy but to the greedy. The time has come to control the uncontrollable."

Among the cuts the Administration is expected to recommend for Medicare and Medicaid are a flat two percent reduction in the Medicare reimbursement rate for hospitals; a limitation of five percent in the rise for the physicians' fee screen; a reduction to 80 percent of Part A, the usual and customary reimbursement for hospital-based physicians; limitation of physician reimbursement for services in hospital outpatient departments; elimination of the subsidy for private hospital rooms; indexing of the Medicare Part B physicians services deductible to the Consumer Price Index, and mandatory enlistment of the federal work force in the Medicare program.

Explaining the need for transferring programs to the states, the President cited "the overpowering growth of federal grants-in-aid programs during the past few decades."

In 1960, he said, there were 132 categorical grant programs costing \$7 billion. Today there are about 500 programs costing almost \$100 billion.

"Neither the President nor the Congress can properly oversee this jungle of grants-in-aid; indeed, the growth of these grants has led to a distortion in the vital functions of government . . ."

One intergovernmental commission, President Reagan noted, has said that the growth of grants-in-aid has made the federal government "more pervasive, more intrusive, more unmanageable, more ineffective, more costly and above all more unaccountable."

The fate of the President's proposals in Congress is uncertain. Democrats were indicating they may put up stiff resistance. The November elections are only months away, and the controversial, sweeping nature of the proposals will set off a prolonged debate that might spill over into the next session of Congress.

* * * *

The American Medical Association joined health providers and insurers, organized labor, and business in formally endorsing the concept of voluntary local coalitions to tackle the problems of health care costs, quality and access.

The unprecedented gathering of major national

organizations representing all aspects of health care to agree on common goals was announced at a news conference here attended by principal officers of the organizations.

The withdrawal of federal funding in health and the new emphasis on private solutions was cited by Harvard U. Prof. John Dunlop, coordinator of the national coalition effort, as major factors in the encouragement of coalitions.

The six organizations "seek to encourage and to assist the efforts in a growing number of local communities in which local affiliates of the national organizations have voluntarily joined together to put into effect common programs for utilization review, facility and technology review and planning, and other activities most appropriate to the particular locality to restrain cost increases while recognizing an appropriate concern over quality and access to health care," Dunlop told reporters.

In addition to the AMA, organizations involved are the American Hospital Association (AHA), the AFI-CIO, Blue Cross and Blue Shield Associations, the Health Insurance Association of America (HIAA) and the Business Roundtable.

Noting that the AMA has been responsible for developing 25 of the present 70 coalitions, AMA Executive Vice President James Sammons, M.D., told the news conference the primary focus of coalitions is to determine what the problems of the local area are and to come up with programs for dealing with them. He described the coalition movement as "a totally different" activity than the Voluntary Effort (VE) which is a national program to restrain cost rises.

Dr. Sammons said the AMA opposes federal health planning but believes that voluntary planning at the local level "is necessary and desirable."

The AMA long has recommended experimentation with health insurance benefit packages through such steps as removing mandatory hospitalization for patients to receive benefits and requirements for care in specific types of institutions, Dr. Sammons said. "All of us must look at changes in benefit packages that can be productive."

* * * *

The AMA has argued before the Supreme Court that when professionals advance their ethical standards for the benefit of patients the government should encourage the effort, not

hinder it.

The Justices were urged in a hard-hitting, one-hour oral argument to reject the Federal Trade Commission's actions against the AMA's ethical restrictions against misleading advertising.

The FTC should have given the AMA a medal instead of a long and tedious trial, said AMA counsel Newton Minnow. He noted that the AMA was the first professional organization to rewrite its ethical codes following the Supreme Court's historic 1975 decision rejecting a state bar association's fee standard.

The new AMA code limited the restrictions against physician advertising to make unethical only advertising that is false, misleading or deceptive.

But the FTC didn't pay attention, said Minnow. The agency is obsessed with the past, unconcerned with the present and blind to the future, the lawyer said.

Dismissing the FTC conspiracy charge as "nonsense," the AMA attorney said the agency is determined to "press for its pound of flesh" despite the AMA's compliance. The AMA's warnings to the FTC of the impact of improper advertising on patients went unheeded, he said.

It was wrong of the FTC not to even look at the AMA's current standards, he said. The protection of the public is at stake, Minnow said. "If a doctor advertises that he cured his last 25 patients, we think that is false and misleading. We are dealing with health, life and safety." Why should the government try to stop guidelines intended to protect and benefit the public, asked the Chicago lawyer?

* * * *

The AMA has been awarded a \$300,000 physician placement contract to help the National Health Service Corps (NHSC) place Private Practice Option (PPO) physicians in communities suited to them.

NHSC scholarship physicians who elect to take the PPO are released from their government service obligations if they establish a private practice in Health Manpower Shortage Areas (HMSAs).

The AMA will help PPO physicians settle in communities where their practices will have a good chance of success. The AMA will identify and develop potential sites by matching a list of physical vacancies to a list of HMSAs and by working with local and state medical and professional organizations. They will screen the list

to insure that the communities are receptive to NHSC placements.

The AMA presently works with the NHSC on temporary physician placement through a contract program, Project USA. Under this program, the AMA identifies physicians interested in a 1-week or 2-week practice in a shortage area and arranges for them to serve at NHSC or Indian Health Service (IHS) sites. The AMA provides physicians to cover the practice while Federal physicians are on vacations or continuing their medical education.

* * * *

The Administration will ask Congress to give the government power to crack down on health professionals who have defaulted on student loans.

The announcement by Health and Human Services (HHS) Secretary Richard Schweiker followed a hearing by the Senate Governmental Affairs Subcommittee where the staff charged that 50,000 health professionals, including more than 5,000 physicians, are seriously delinquent.

Schweiker said as many as 30 percent of borrowers might be delinquent in repaying some \$20 million of the Health Professions Student Loans and the Nursing Student Loans.

"Some new students may be unable to get loans to attend medical or nursing school because some former loan recipients have not repaid their indebtedness. We owe it to future health profession students to stop the widespread delinquency in loan payments," he said.

In addition to the legislation being prepared, the HHS Secretary outlined three other steps:

Establishment of a watchdog program by the HHS Inspector General and Assistant Secretary for Health; exploration by the HHS counsel on better ways of catching delinquents; and performance standards for schools to be used in processing future loan applications.

Under the loan program, a \$70 million revolving pool, the department makes the money available to schools which lend it to qualified students. The schools are responsible for repayment from the students.

* * * *

An Institute of Medicine Committee has recommended that the public be given unrestricted access to statistical information gathered by Professional Standards Review Organizations (PSROs) on the federal health-care services pro-

vided by individual hospitals and other institutions.

The committee suggested that information on care provided by individual physicians and other health-care practitioners be provided in coded form only. Such statistical information would include the number and duration of hospital stays for patients receiving federal-health care benefits, diagnosis before and after treatment, aggregate demographic data, mortality rates, etc.

The committee stressed that any public release of medical statistics should guarantee the privacy of individual patients.

The Institute report was given to the House Subcommittee on Government Information and Individual Rights and the House Subcommittee on Health and the Environment.

Current federal regulations require PSROs to provide the public upon request with information only on individual institutions and only if the names of physicians cannot be determined either "directly or indirectly." Federal regulations prohibit public release of statistics on care provided by individual physicians.

The Institute committee's conclusions were limited to disclosure policies for PSRO data on federal patients. However, the importance of "enhancing consumer choices and the public accountability of medical institutions," said the committee, is "powerful enough to warrant more general application of its recommendations," to other medical review data collected by government agencies or private organizations.

Recent court decisions have held that PSROs are not agencies of the federal government and thus subject to federal public disclosure requirements.

* * * *

The American Enterprise Institute (AEI) is conducting a one-year project to determine how the private sector can take a bigger role in solving fundamental societal problems and providing needed human services.

President Reagan has asked for a detailed report on the findings of AEI's study and for policy options by June 1982.

The AEI said it will look at a number of specific areas of need including health care, child welfare, youth employment, housing, crime prevention and economic development.

AEI President William Baroody said private sector initiatives do not have to mean that the

private sector replaces dollar for dollar the money cut from the federal government.

"That would neither be feasible, nor, in my judgment, desirable," said Baroody. "There is a whole range of contributions that government still needs to make and that the private sector through business, neighborhood groups, labor unions, church groups and voluntary associations are making and can make that do not have to entail large sums of money."

* * * *

George Washington U. Medical School in Washington, D. C., will raise tuition next Fall to \$19,000 a year, believed to be one of the highest in the country. At present, the G.W. tuition is \$950 under the \$15,950 charged by Georgetown U. Medical School only a short distance away. A Georgetown spokesman said his school expected to lift its tuition to about the same range as George Washington's. Among the reasons cited for the rise was the phasing out of federal support and the lack of any state support for the two private medical schools.

* * * *



DR. JAMES L. MAUPIN

DR. MAUPIN HEALTH PRESIDENT

Dr. James L. Maupin of Dardanelle was recently elected president and chairman of the Executive Committee of the State Board of Health. Dr. Robert Miller, Jr., of Helena, was elected vice president of the Board.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

ARKANSAS MEDICAL SOCIETY MEETING

April 29 - May 2, Arlington Hotel, Hot Springs.
Hour-for-hour Category I credit.

CANCER SYMPOSIUM

Presented by Larry J. Copeland, M.D., Houston, Texas, and Frank J. Panettiere, M.D., Rogers, Arkansas, *May 6, 3:30 p.m. to 9:00 p.m.*, Kings Row Inn, Stateline Avenue, Texarkana, Arkansas. Four hours Category I credit. Registration fee: \$20.00. Sponsored by AHEC Southwest.

ANNUAL PEDIATRIC SEMINAR

Presented by Robert Fiser, M.D., *May 7-9, Fair-*

field Bay. Sponsored by UAMS (time, fees, and hours of credit unknown).

THE USE OF ANTIMICROBIAL AGENTS, OLD AND NEW: UPDATE 1982

Presented by Robert Abernathy, M.D., *May 19, 8:00 a.m. to 5:00 p.m.*, Winston K. Shorey Building, UAMS. No registration fee.

FAMILY PRACTICE INTENSIVE REVIEW

Presented by Ben Saltzman, M.D., *June 18-19, Education II Building, UAMS.* (Time, fees, hours of credit unknown.)

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC-SOUTH

Surgical Conference, each Monday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

Medical Journal Club Conference, first and third Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

Pathology Conference, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

Internal Medicine Conference, first and second Wednesday, 12:30 p.m. to 1:30 p.m.

Chest Conference, third Wednesday, 12:30 p.m. to 1:30 p.m.

Neurology Conference, fourth Wednesday, 12:30 p.m. to 1:30 p.m.

Obstetrics-Gynecology Conference, each Thursday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

Pediatric Conference, third and fourth Friday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas on fourth Friday; Union Medical Center on third Friday.

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, May 6, 20 and June 3, 17, 1:00 p.m., Conference Room.

Pathology Conference, May 18 and June 15, 3:00 p.m., Conference Room.

Mortality Conference, May 13 and June 10, 3:00 p.m., Conference Room.

JONESBORO — AHEC-NORTHEAST

Interesting Case Conference, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

Craighead Memorial CME Staff Conference, second Tuesday, 7:30 p.m., St. Bernard's Dietary Conference Room.

Monthly Lecture Series, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.

Tumor Conference, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

Continuing Medical Lecture Series, each Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

Chest Conference, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Pediatric Radiology/Genetics Conference, each Monday, 12:00 noon, 3-South Playroom.

Pediatric Grand Rounds, each Tuesday, 8:00 a.m., Physicians' Conference Room.

Infectious Disease Conference, second Wednesday, 12:00 noon, Physicians' Conference Room.

Problem Case Conference, each Thursday, 12:00 noon, Physicians' Conference Room.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, May 18 and June 15, 7:00 p.m. to 1:00 a.m., Auditorium. Six hours Category I credit.

GI Roundup, third Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.

Pulmonary Conference, each Tuesday, 12:00 noon to 1:00 p.m., Auditorium.

Emergency Medicine Conference, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

Morbidity and Mortality Conference, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.
Surgery Conference, each Thursday except first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.
Anesthesiology Conference, third Thursday, 7:00 a.m. to 8:00 a.m., Dining Room #3.
Case of the Month, May 12 and June 9, 23, 12:00 noon to 1:00 p.m., Conference Room #1.
Anxiety/Stress Conference, May 26 and June 30, 12:00 noon to 1:00 p.m., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Gynecology Conference, first Monday, 12:15 p.m. to 1:15 p.m., Coffee Shoppe Dining Room #3.
Interhospital GI Problems Conference, first Monday, 6:00 p.m. to 7:30 p.m., Room E155, Education Wing.
Pediatric Conference, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.
Neuropathology Conference, third Tuesday, 5:00 p.m. to 6:00 p.m., Room S-1169, Laboratory.
Peripheral Vascular Disease Conference, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.
Pulmonary Conference, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.
Cardiology Conference, second and fourth Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Internal Medicine Grand Rounds, each Thursday, 8:00 a.m. to 9:00 a.m., Auditorium, Shorey Building, UAMS.

TEXARKANA — AHEC-SOUTHWEST

AHEC Monthly Tumor Conference, first Wednesday, 7:00 a.m., St. Michael Hospital.
AHEC Monthly Chest Conference, third Wednesday, 12:30 p.m., St. Michael Hospital.
AHEC Neonatal Conference, "Persistent Pulmonary Hypertension," May 24, 12:00 noon, Wadley Hospital.



PERSONAL AND NEWS ITEMS

DR. THURSTON BLACK

Dr. and Mrs. Thurston Black of Little Rock have created a charitable trust fund for Baptist Medical Center and St. Vincent Infirmary. Dr. Black donated the property on which his office is built in memory of their parents, Dr. and Mrs. Charles Thurston Black of El Dorado and Dr. and Mrs. Ronald D. Ackerman of Hot Springs.

DR. GATES LOCATES

Dr. L. T. Gates has announced the opening of his office for the practice of Family Medicine in Brinkley.

DR. JONES CHIEF

Dr. Joe V. Jones of Blytheville is the new chief of staff at Chickasawba Hospital.

POETRY ASSOCIATION

The American Physicians Poetry Association has been formed in order to give physicians a forum in which to exchange views and ideas.

Physicians are invited to join and send poems for consideration for publication in the Journal. The dues are \$10 annually. For further informa-

tion, contact: Richard A. Lippin, M.D., 230 Toll Drive, Southampton, Pennsylvania 18966; phone (215) 364-2990.

DR. WILSON TEACHES

Dr. R. Sloan Wilson, a Little Rock vitreo-retinal surgeon, and his wife recently returned from Jordan, where they were invited guests of the Jordanian Government. Dr. Wilson, a visiting professor of Ophthalmology at the King Hussein Medical Center and Jordan University in Amman, lectured and helped Jordanian Ophthalmologists perform their first vitrectomies using instrumentation arranged through the International Eye Foundation.

DR. KLEPPER CERTIFIED

Dr. Klepper of Harrison has successfully completed the American Board of Internal Medicine examination.

DR. McCLAIN ELECTED CHIEF

Dr. Charles McClain of Batesville is the 1982 chief of staff at White River Regional Medical Center. Dr. B. G. Smith of Batesville served as

1981 chief of staff. Dr. Paul Baxley, Batesville, was elected vice chief of staff, and Dr. John Scott, Batesville, was elected secretary.

DR. BATTLES IS MADE DIPLOMAT

Dr. Larry Battles of Russellville has successfully completed certification requirements of the American Board of Obstetrics and Gynecology and received Diplomat status.

DR. BUTLER NAMED CHIEF

Dr. G. Harrison Butler of Fayetteville has been named 1982 Chief of Staff for the Washington Regional Medical Center Board of Governors. Dr. William Harrison of Fayetteville is the former chief of staff. Dr. Mae B. Nettleship of Fayetteville is vice chief of staff; Dr. Philip Duncan of Fayetteville is the chairman of Medicine; Dr. Jorge Johnson of Fayetteville is chairman of Surgery.

DR. PLANT APPOINTED CHIEF

Dr. Richard Plant of Camden is the new chief of staff for Ouachita County Hospital. Other appointments are: Dr. R. H. Nunnally as chief of obstetrics and parliamentarian, Dr. C. H. Fohn as chief of surgery, Dr. A. E. Thorne as secretary, and Dr. L. V. Ozment as member-at-large; all are from Camden.

DR. KALER SPEAKS

Dr. Ron Kaler of Hot Springs spoke at a recent meeting of the Hot Springs Wildlife Federation. Dr. Kaler discussed hunting accidents and first aid care.

DR. MUYLEART IN PRACTICE

Dr. M. Louis Poole of Fort Smith announces the association of Dr. Michel Muylaert with Obstetrics and Gynecology Clinic at 1501 South Waldron Road.

ST. EDWARD COMMITTEE

Members of the 1982 medical staff executive committee for St. Edward Mercy Medical Center, Fort Smith, are: Dr. William Holman, chief of staff; Dr. Joe Paul Alberty, chief of orthopaedics; Dr. R. V. Walling, chief of pediatrics; Dr. Adrian Herren, chief of anesthesiology; Dr. Max Baker, chief of psychiatry; Dr. Charles Lane, chief of EENT; Dr. W. C. Holmes, chief of surgery; Dr.

David Kocher, chief of internal medicine; Dr. David Busby, chief of family practice; Dr. Louis Poole, chief of obstetrics-gynecology; and Dr. Tom Parker, chief of radiology.

PHYSICIAN CANDIDATES

Drs. Theron F. Crocker and William F. Harrison of Fayetteville have filed as candidates for the Fayetteville School Board.

DR. CAMP SPEAKS

Dr. Arthur Camp of Hazen presented a program on prostatic cancer at a recent public education program at the National Guard Armory in Hazen.

DR. ARNOLD ELECTED CHIEF

Dr. Sidney W. Arnold of West Memphis is the 1982 chief of staff at Crittenden Memorial Hospital. Dr. C. Herbert Taylor is the 1982 chairman of the Medicine Department and Dr. Paul J. Huffstutter is chairman for the Department of Surgery.

DR. IRWIN LOCATES

Drs. Jerry Mann and John Balay of Arkadelphia have been joined by Dr. William G. Irwin.

DR. BELKNAP ELECTED

Dr. Melvin L. Belknap of North Little Rock has been elected chief of the 1982 medical staff executive committee at Memorial Hospital; Dr. T. Ben Wilson of North Little Rock is vice chief and Dr. Charles H. Kennedy, also of North Little Rock, is secretary. Section officers include North Little Rock physicians Dr. John S. Sulieman, hospital affairs; Dr. Kimber M. Stout, medicine; Dr. Marion M. Church, patient care; Dr. Jack T. Fendley, quality assurance; and Dr. Charles Fielder, surgery; and Little Rock physicians, Dr. Douglas E. Young, pathology, and Dr. W. Clyde Glover, radiology.

DR. BUSBY BEGINS PRACTICE

Dr. A. K. Busby of Monticello has been joined by his son, Dr. J. R. (Bo) Busby, at the Medical and Surgical Clinic.

DR. EADES JOINS DR. HARRIS

Dr. Willie R. Harris has announced the association of Dr. Michael J. Eades with the England Medical Clinic.





NEW MEMBERS

DR. KERRY F. PENNINGTON

Dr. Pennington, a native of Warren, is a new member of the Bradley County Medical Society.

Dr. Pennington was graduated from the University of Arkansas at Monticello in 1974 and from the University of Arkansas College of Medicine in 1978. His internship and residency training were with the John Peter Smith Hospital in Fort Worth, Texas. He is board certified in Family Practice.

Dr. Pennington specializes in Family Practice. His office is in the Warren Family Practice Clinic at 205-207 East Church Street in Warren.

DR. LARRY J. BODEKER

Dr. Bodeker is a new member of the Craighead-Poinsett County Medical Society. He was born in Red Bud, Illinois.

Dr. Bodeker is a 1973 graduate of Arkansas State University and a 1977 graduate of the University of Arkansas College of Medicine. He served his Diagnostic Radiology residency with the University Medical Center from 1977 to 1980. From 1980 to 1981, he was an instructor with the Department of Radiology at the University of Arkansas College of Medicine. Dr. Bodeker is board certified in Diagnostic Radiology.

Dr. Bodeker is associated with the Arkansas Radiology Group at 823 Union in Jonesboro.

* * * *

The Crittenden County Medical Society has three new members:

DR. JACINTO HERNANDEZ

Dr. Hernandez was born in El Ferrol, Spain. He received a Bachelor in Sciences degree from Instituto Nacional El Ferrol. Dr. Hernandez was graduated from the University of Santiago Faculty of Medicine in Spain in 1974. His internship was with Muhlenberg Hospital in Plainfield, New Jersey. After an Internal Medicine residency, he served a Nephrology fellowship. Dr. Hernandez is board certified in Internal Medicine.

Before coming to Arkansas, Dr. Hernandez practiced briefly in Union City, Tennessee.

Dr. Hernandez specializes in Nephrology and Internal Medicine. His office is located at 228 Tyler in West Memphis.

DR. P. J. HUFFSTUTTER

Dr. Huffstutter was born in Levelland, Texas.

Dr. Huffstutter received a B.S. degree from the University of Tennessee at Martin in 1970. He was graduated from the University of Tennessee College of Medicine in 1973. After an internship with Baptist Memorial Hospital in Memphis, Dr. Huffstutter received General Surgery residency training at the University of Tennessee Affiliated Hospitals in Memphis. From 1979 to 1980, he was an Assistant Professor of Surgery at the University of Tennessee College of Medicine, Memphis. He is a board certified Surgeon.

Dr. Huffstutter specializes in General and Vascular Surgery. His office is located at 308 South Rhodes in West Memphis.

DR. SAMUEL G. MEREDITH

Dr. Meredith, a native of Newport, attended Milsaps College in Jackson, Mississippi, and Delta State University in Cleveland, Mississippi. He is a 1971 graduate of the University of Tennessee College of Medicine in Memphis. Dr. Meredith was an intern with the Pensacola Education Program in Florida. His residency training was with the University of Tennessee Memorial Research Center and Hospital in Knoxville. He is board certified in Orthopaedic Surgery and is a fellow of the American Academy of Orthopaedic Surgeons.

Dr. Meredith practiced in Cleveland, Tennessee, from 1976 to 1981.

He specializes in Orthopaedic Surgery. Dr. Meredith has his office at 228 Tyler in West Memphis.

* * * *

DR. STEPHEN L. BODEMANN

The Garland County Medical Society has added Dr. Bodemann to its membership roll. Dr. Bodemann was born in Houston, Texas.

Dr. Bodemann received his A.A. degree from Allen County Community College in Iola, Kansas, in 1972 and his B.S. from Kansas State University of Pittsburg in 1974. He was graduated from the University of Kansas School of Medicine, Kansas City, in 1977. Dr. Bodemann worked with Dr. Ren Whittaker in Oberlin, Kansas, for one year. He served an Internal Medicine internship and residency at Kansas University Medical Center.

Dr. Bodemann specializes in Internal Medicine. His office is in the Grand Avenue Professional Mall, 615 West Grand Avenue, in Hot Springs.

DR. D. A. BUCKLEY

Dr. Buckley is a new member of the Howard-Pike County Medical Society. He was born in Shanghai, China.

Dr. Buckley received his pre-med education at the University of British Columbia in Canada. He was graduated from the University of British Columbia Faculty of Medicine in Vancouver in 1973. Dr. Buckley served his intership at the Queen Elizabeth Hospital in Montreal, Canada.

From 1970 to 1981, Dr. Buckley was a member of the Canadian Air Force. During this time, he was stationed in New Brunswick, Canada; Baden, West Germany; and Ontario, Canada.

Dr. Buckley specializes in General Practice and Aviation Medicine. His office is located at 1220 South Fourth Street in Nashville.

DR. A. DALE GULLETT

Dr. Gullett, another new member of the Howard-Pike County Medical Society, was born in Deberrie, Arkansas. He served with the United States Navy from 1940 to 1946.

Dr. Gullett is a 1950 graduate of the University of Tennessee in Knoxville and a 1954 graduate of the University of Arkansas College of Medicine. After an internship with Baptist Hospital in Little Rock, Dr. Gullett practiced in Arkansas for four and one-half years and for two and one-half years in Saudi Arabia.

He then spent two years in residency training, one year with the University of Michigan Medical School in Ann Arbor and one year with the University of Southern California School of Medicine in Los Angeles. Dr. Gullett has also practiced in North Carolina, Illinois, Indiana, Michigan and New York. He is board certified in Preventive Medicine.

Dr. Gullett specializes in General Preventive Medicine. He is with the Dierks Medical Association at Third and Hermann Streets.

DR. ROBERD "ROBIN" M. BOSTICK

Dr. Bostick is a new member of the Independence County Medical Society. He was born in Beaufort, South Carolina.

Dr. Bostick received a B.S. from Wofford College, Spartanburg, South Carolina. He was graduated in 1976 from the Medical University of

South Carolina College of Medicine in Charleston. Dr. Bostick received Family Practice training at the same institution; from 1978 to 1979, he was chief resident in Family Practice. He was also a clinical assistant professor with the Department of Family Practice.

Dr. Bostick practiced in Mount Pleasant, South Carolina, for two and one-half years before moving to Arkansas.

Dr. Bostick is board certified in Family Practice. His office for the practice of Family Medicine is in the White River Medical Arts Building at 17th and Harrison in Batesville.

DR. ROY W. GERRITSEN

Dr. Gerritsen is a new member of the St. Francis County Medical Society. He was born in Passaic, New Jersey.

Dr. Gerritsen received his A.B. degree in 1956 from Syracuse University, New York. He is a 1960 graduate of the New York Medical College, New York City. His internship was with Fitkin Memorial Hospital in Neptune, New Jersey. Dr. Gerritsen received residency training at Abington Memorial Hospital in Pennsylvania.

He was a member of the United States Navy from 1962 to 1964. Dr. Gerritsen was in private practice for fourteen years in Abington, Pennsylvania. He was a Clinical Instructor in Surgery at Temple Medical School in Philadelphia.

Dr. Gerritsen is board certified in General Surgery. His office is at 1600 Lindauer Road in Forrest City.

* * * *

The Sebastian County Medical Society has four new members:

DR. W. DON HEARD

Dr. Heard, a native of Traskwood, was graduated in 1963 from Hendrix College in Conway. He is a 1968 graduate of the University of Arkansas College of Medicine.

His internship was with Thomas Jefferson University Hospital in Philadelphia, Pennsylvania. Dr. Heard served with the United States Army Medical Corps from 1969 to 1971. Dr. Heard was with the University of Arkansas College of Medicine for residency training. He is board certified in Internal Medicine and Pulmonary Diseases.

Dr. Heard was in private practice for two years in Reading, Pennsylvania, and for two years in Philadelphia.

He is associated with Holt-Krock Clinic at 1500 Dodson in Fort Smith.

DR. STEPHEN C. MANUS

Dr. Manus, a native of Philadelphia, is a graduate of Temple University in that city. He was graduated from Temple University School of Medicine in 1972. His internship was with Springfield Hospital Medical Center in Massachusetts. He had training in Internal Medicine and Cardiology with Thomas Jefferson University Hospital in Philadelphia. He is board certified in Internal Medicine and Cardiovascular Diseases.

Dr. Manus was in private practice in Lewis-town, Pennsylvania, from 1977 to 1981. He was an Assistant Clinical Professor of Medicine and Clinical Lecturer at Hershey Medical Center in Pennsylvania.

Dr. Manus specializes in Cardiology. His office is with Cooper Clinic, Waldron at Ellsworth, in Fort Smith.

DR. ANDRE JOSEF NOLEWAJKA

Dr. Nolewajka was born in Bromsgrove, England. He is a 1970 graduate of the University of Western Ontario, London, Ontario. He was graduated from the Faculty of Medicine at the University of Western Ontario in 1972.

Dr. Nolewajka served a Straight Medicine Internship at the University of Western Ontario. While at the University, he was a Clinical Research Fellow from 1975 to 1977 and a Fellow in Cardiology from July 1977 to June 1978. The following year, he was Chief Resident with the Department of Medicine of St. Joseph's Hospital in London, Ontario. In June 1979, he received a Masters Degree in Clinical Science — Department of Medicine. In July 1979, he was awarded a Canadian Heart Foundation Fellowship as a Clinical Research Fellow at University Hospital in London, Ontario. In July 1980, he was named Assistant Professor of Medicine at the University of Western Ontario.

Dr. Nolewajka was certified by the American Board of Internal Medicine in 1979. He is associated with Westark Surgical Clinic at 522 South 16th Street in Fort Smith, specializing in Cardiology and Internal Medicine.

DR. DANA P. RABIDEAU

Dr. Rabideau was born in Iowa City, Iowa. He is a 1970 graduate of Northwestern University in Chicago and a 1972 graduate of the Northwestern

University Medical School, Chicago. His internship and Internal Medicine residency were with the same institution. He served a Nephrology fellowship with the University of Colorado Affiliated Hospitals in Denver. From 1975 to 1976, Dr. Rabideau practiced with the United States Public Health Services.

Before moving to Arkansas, Dr. Rabideau was an Assistant Professor of Medicine at Rush-Presbyterian-St. Luke's Medical Center in Chicago. He is certified in Internal Medicine and Nephrology.

Dr. Rabideau specializes in Internal Medicine and Nephrology. His office is with the Holt-Krock Clinic at 1500 Dodson in Fort Smith.

* * * *

DR. JAMES A. S. HAISTEN

Dr. Haisten is a new member of the Washington County Medical Society. He was born in Temple, Texas.

In 1970, Dr. Haisten received a B.S. from Baylor University. He was graduated from the University of Texas Medical Branch at Galveston in 1974. Dr. Haisten served his Internal Medicine internship and residency at the University of Arkansas Medical Center in Little Rock. He also had a Fellowship in Cardiology with the University. Dr. Haisten is certified in Internal Medicine.

Dr. Haisten specializes in Cardiology. His office is at 708 Quandt Street in Springdale.

* * * *

The White County Medical Society has added three new members to its roll:

DR. LEON R. BLUE

Dr. Blue, a native of Jonesboro, was graduated from Harding University with a B.S. degree. He received his medical degree from the University of Arkansas College of Medicine in 1976.

Dr. Blue served his internship and residency in Internal Medicine with the University. He also had a Cardiology Fellowship at the same institution. While at the University, he served as an instructor with the Department of Internal Medicine. Dr. Blue is board certified in Internal Medicine.

Dr. Blue specializes in Cardiology. His office is in the Searcy Medical Center at 2900 Hawkins Drive in Searcy.

DR. DAVID C. COVEY

Dr. Covey was born in Fort Smith. He is a 1974 graduate of the University of Arkansas at Fayetteville and a 1978 graduate of the University of Arkansas College of Medicine. His internship and Internal Medicine residency were with the University Hospital.

Dr. Covey specializes in Internal Medicine. His office is in the Searcy Medical Center at 2900 Hawkins Drive in Searcy.

DR. DAVID L. STAGGS

Dr. Staggs was born in Heber Springs. In 1974, he was graduated from Harding University and in 1978, he was graduated from the University of Arkansas College of Medicine. His Family Practice residency was with the Area Health Education Center in Fort Smith.

Dr. Staggs specializes in Family Practice. His office is in the Searcy Medical Center at 2900 Hawkins Drive in Searcy.



O B I T U A R Y

DR. CURTIS W. JONES, SR.

Dr. Jones of Benton died March 6, 1982. He was born in 1895 in Little Rock.

Dr. Jones was a 1920 graduate of the Tulane University Medical School in New Orleans, Louisiana. He served his internship at the New Orleans Charity Hospital. Before opening his practice in Benton, Dr. Jones was a Professor and Head of the Department of Pathology at the University of Arkansas Medical School. Dr. Jones opened his practice in Benton in 1924 and retired in 1978.

Dr. Jones began playing the violin at age 5. When he was 10, he joined the Musicians Union and played in orchestras at the old Kempner Opera House, the Majestic, and at the Crystal and the Capitol Theaters in the days of silent films. While attending Little Rock High School, he organized the school's first orchestra. Dr. Jones was a former concertmaster of the Northwest Symphony and former member of the Mark Kaiser String Quartet. He had played for more than 30 years with the Arkansas Symphony Orchestra and its predecessors. In 1977, his family purchased a harpsichord for the Symphony in his honor.

Dr. Jones was a geology hobbyist, a student of the Revolutionary and Civil Wars, a veteran of World War I, a member of the Benton-Bauxite Rotary Club, former district chairman of the Boy Scouts of America, and a poet. At the time of his death, Dr. Jones was a life member of the Ar-

kansas Medical Society and the American Medical Association and a member of the Fifty Year Club of the State Society.

Dr. Jones is survived by his wife, Rosina Nelson Jones, and three sons — Drs. Curtis W. Jones, Jr., and Robert E. Jones of Benton, and Dr. William N. Jones of Little Rock.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The patient's ECG demonstrates characteristic changes of acute inferior myocardial infarction with ST elevation in II, III, and AVF with ST depression in I and AVL. ST depression in I and AVL mirrors ST elevation in II, III, and AVF and is usually termed "reciprocal" change. However, ST depression in the anterior precordial leads is unlikely to be due to the same vector causing inferior ST elevation and hence, is not reciprocal change. ST depression in the anterior precordial leads associated with inferior infarction may be due to posterior ischemia or necrosis, concurrent subendocardial ischemia of the anterior wall, or coronary spasm. It has recently been reported by Nasmith that patients experiencing inferior infarction associated with ST depression in the anterior precordial leads are much more likely to develop ischemic symptoms in the six months following their infarcts than are patients with inferior infarction unassociated with anterior precordial ST depression. Patients with inferior infarction generally do not develop congestive failure since the amount of myocardial loss tends to be small. The likelihood of early ventricular rhythm disturbances is influenced more by the stability of the myocardium than by infarct size or site. By this analysis then, statements 1. and 3. are true while 2., 4., and 5. are false.

REFERENCE: 1. Nasmith, et al. Clinical outcomes after inferior myocardial infarction. *ANNALS of Internal Medicine*. 1982; 96: 22-26.

THINGS TO COME

May 15-16

Cardiovascular Nuclear Medicine Workshop. University of Texas Health Science Center at Dallas, Division of Nuclear Medicine — Department of Radiology, Parkland Memorial Hospital, Dallas. Fee: \$250; \$175 for residents with letter from chairman. Twelve hours Category I. For further information, contact Yvonne Bailes, Continuing Education—Radiology, 5323 Harry Hines Boulevard, Dallas, Texas 75235; phone (214) 688-2166.

June 10-12

Annual Meeting, Arkansas Chapter, American College of Surgeons. Speaker will be Dr. John Ray from Ochsner Clinic in New Orleans. Red Apple Inn, Heber Springs. For further information, contact Dr. Charles Logan, 500 South University, Little Rock 72205; phone 644-4364.

June 11-12

16th Annual Kenneth C. Haltalin Pediatrics Seminar. "Neonatology for the Practitioner." Children's Medical Center, Department of Pediatrics, Southwestern Medical School, The University of Texas Health Science Center at Dallas. Ten hours Category I, AMA. Fee: \$100. For further information, contact: Division of Continuing Education, The University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas 75235; phone (214) 688-2166.



AMA AUXILIARY

1982 REGIONAL CLUSTER MEETING

Mrs. Herbert Taylor, president-elect of the Arkansas Medical Society Auxiliary, and Mrs. Paul Cornell, nominated president-elect, attended the AMA Auxiliary Regional Cluster meeting in Chicago, February 23-25, at the Drake Hotel. The meeting provided an opportunity for communication between the national and state auxiliaries, an exchange of ideas among the incoming state

leaders, and preparation for the AMA Auxiliary Convention in June.

Mrs. Harry Dvorsky, president of the AMA Auxiliary, and Mrs. Torrence Payne, president-elect, welcomed the nationwide group of over 100 new state presidents, presidents-elect, and nominated presidents-elect. Mrs. Dvorsky and other national leaders led briefings and discussions, including a thorough explanation of the proposed new bylaws changes to be voted on at Convention. State leaders were encouraged to ask questions and discuss the changes, so that they could return to their states and provide information to their delegates to convention, as well as state and county leaders. The proposed national bylaws will be published in the upcoming issue of *Facets*.

The large group was divided into various smaller groups, enabling discussions and idea exchanges among members. There were meetings by region, size of Auxiliary, presidents, presidents-elect, and nominated presidents-elect. Topics discussed included programs, membership, fund raising, the people bank (new), pilot project (new), public relations, recruitment and retention, and chairman workshops, just to mention a few. A concerted effort was made and achieved by our national officers to make themselves available for questions and answers, and to bridge the gap some felt existed between state and national leadership.

Some of the subjects mentioned under consideration for new national focus are alcohol abuse, the environment, home health care, supplementary free clinics and using the Auxiliary as a catalyst in working with other organizations to achieve health-oriented programs of benefit to the public.

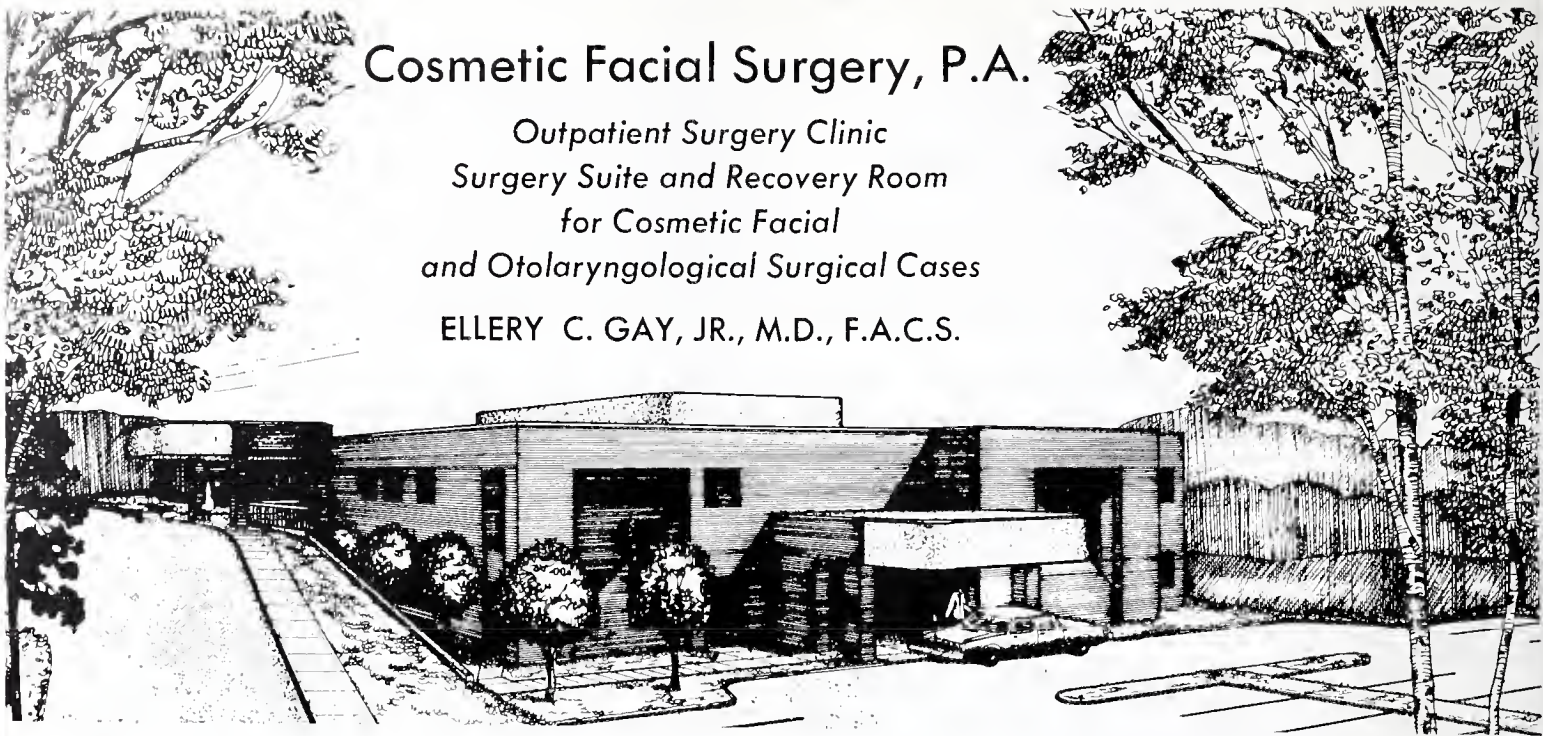
One interesting guest speaker was Joan Wolf, author of *Making Things Happen*, who spoke to the group and led a lively discussion of leadership abilities, errors, qualities, and her rules for making things happen. As an active environmentalist, author, member and chairman of several national boards and organizations, she obviously has succeeded, and her book should prove valuable to anyone who finds themselves "the leader" of a group — if only for her chapter on simplified rules for Parliamentary procedure.

The strong feelings brought back to a snowy Arkansas from a clear Chicago by the Arkansas participants were those of enthusiasm and pride for our national organization and what it has to offer, and our own State Auxiliary, for what it has done and can do. I am sure there is a plan afoot to infect you all with those same feelings of enthusiasm and pride.

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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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Allograft Replacement of the Proximal Tibia

Carl L. Nelson, M.D., and Purcell Smith, III, M.D.*

Although there have been many methods of dealing with bony tumors, one that holds promise, but has not yet been fully developed, is allograft replacement of the amputated bony part. Although the procedure is limited by the types of tumors that may theoretically be treated by this procedure and by the availability of allograft parts, it remains a viable option for certain patients. The purpose of this study is to report the successful use of an allograft implant in giant cell tumor of the proximal tibia.

CASE REPORT

The patient, who is a 40-year-old white female, was first seen by the Department of Orthopaedic

Surgery at the University of Arkansas Medical Sciences Campus in October, 1976, for evaluation of her previous surgery of the right proximal tibia. In 1968 a 6 x 4 x 4 centimeter lytic lesion was biopsied and found to be a benign giant-cell tumor. The lesion was curetted, packed with 5 Fluorouracil, and grafted with autogenous bone. Clinically, the patient did well until a recurrence was noted radiographically in August of 1973. She was taken to surgery and a biopsy and curettage were done. In November, 1973, with no radiographic evidence of recurrence, she was taken back to surgery, at which time the area packed with nitrogen mustard, and again grafted with autogenous bone. She moved to Arkansas in



Figure 1.



Figure 1.

*University of Arkansas for Medical Sciences, Little Rock, Arkansas.

1974 and was referred for follow-up. She showed no evidence of recurrence until a radiographic examination in October of 1976 showed a lytic area in the right proximal tibia. (Figure 1) In February 1977, she underwent an open biopsy and was found to have recurrent giant-cell tumor. Because of the multiple recurrences, it was decided not to attempt another curettage and bone grafting. In a discussion with the patient, it was agreed to attempt an en bloc resection and allograft replacement of her proximal tibia.

She was admitted early in May, 1977, in preparation for her allograft replacement. Tomograms showed no soft tissue extension and a right femoral arteriogram showed a tumor blush in the lytic area but no other bony defect. She was discharged on May 7 to await a suitable donor. On May 24, 1977, she was readmitted for her surgery after a suitable donor had been obtained. The donor was a 17-year-old female who had recently committed suicide and whose right tibia was taken under sterile conditions and preserved at a -70° centigrade.

Physical Examination

Her physical examination was within normal limits except for the scars on the right proximal

leg from the previous surgery. Her laboratory evaluations were all within normal limits.

Radiographs

Radiographs showed a lytic lesion below the medial plateau of her right tibia which appeared in the same area as her previous lesion. (Figure 1)

Hospital Course

On May 25, 1977, she underwent an en bloc resection of her right proximal tibia and allograft replacement. (Figure 2) Her postoperative course was uncomplicated.

On postoperative Day 6, May 31, 1977, she was placed in a long leg cast and physical therapy was begun. She was discharged on June 4, in a long-leg cast and using crutches. On July 7, 1977, her cast was removed and she had 20° flexion; on July 25, -5° extension lag, 45° flexion. One-year postoperative she was walking without external support, although she had difficulty climbing stairs.

The patient was last seen on October 6, 1980.



Figure 2.



Figure 2.



Figure 3.

At that time, she was walking with a mild limp, a slight valgus deformity of the right knee; flexion 110° , extension, -10° ; moderate medial-lateral instability, moderate anterior-posterior drawer sign but no pain.

X-rays showed good healing of the osteotomy site with slight joint space narrowing (Figure 3).

Discussion

In 1973, Parrish, et al., reported the use of allograft replacement showing the preservation of sixteen extremities in 21 patients. It was their conclusion that although the ultimate fate of allografts is not known, the clinical results warranted continued use of the procedure in selected patients in preference to amputation.

This patient is an example of a young active woman who chose not to have the standard amputation nor fusion of the knee for giant-cell tumor of the proximal tibia. This short-term $3\frac{1}{2}$ year follow-up is exemplary of the type of result that



Figure 4.



Figure 3.

may be obtained by allograft replacement. Although it cannot be used for every type of tumor in the proximal tibia, in this instance it was effective and has left the patient with a useful, functional, cosmetically acceptable extremity and most importantly, has eradicated the tumor (Figure 4). The long-term follow-up of this procedure is not absolutely predictable. However, if arthritic changes occur in the knee or there is a recurrence of the tumor, this patient still has the opportunity to have further therapy including amputation.

ADDENDUM

This procedure was only made possible by the timely availability of a suitable donor. Many patients have experienced considerable delays waiting for a donor with a suitable size bone and joint. To reduce this problem, we have created a bone bank to ensure that a large selection of sizes and tissue types are available. Using the bone bank will enable many other procedures to be performed; such as, cartilage allografts and extensive bone grafting.

Therefore, we would like to appeal to the medical community, if they have a prospective donor between the ages of 18 and 45, to immediately inform us at the University of Arkansas for Medical Sciences at 661-6295 so that the necessary arrangements can be made.



Figure 4.



Biliary Tract Disease—Clinical Approach to a Particular Subset of Patients

C. R. Magness, M.D., and W. R. McNair, Jr., M.D.*

A perplexing problem encountered in the practice of medicine is the evaluation of patients with right upper quadrant pain clinically suggestive of biliary tract disease, normal oral cholecystograms, and normal gastrointestinal and urinary tract x-rays. Frequently these are patients which are referred back and forth between primary care physicians, surgeons, gastroenterologists, and finally psychiatrists. Despite the recognition of a diffuse constellation of pathological processes affecting the biliary tract, precise indications for curative operative intervention are difficult to secure. This presents problems for both physician and patient and frequently results in numerous costly hospital admissions. We have identified a group of patients in our practice which represent this problem. Our approach to these difficult patients will be delineated. Post cholecystectomy syndromes do not fall into this category of patients and will not be discussed.

For simplicity, the patients who will ultimately be shown to have biliary system disease can be included in one of three pathological processes. One is acalculus cholecystitis. Two is cystic duct fibrosis. The other is disease of the Ampulla of Vater. The clinical presentation is frequently that of a young female, often moderately obese, who has recurrent episodes of right upper quadrant pain that may or may not be colicky in

nature. They have usually been seen by one or more physicians who have documented functional gallbladders without cholelithiasis. Their liver function studies are usually normal. They present to you with this problem.

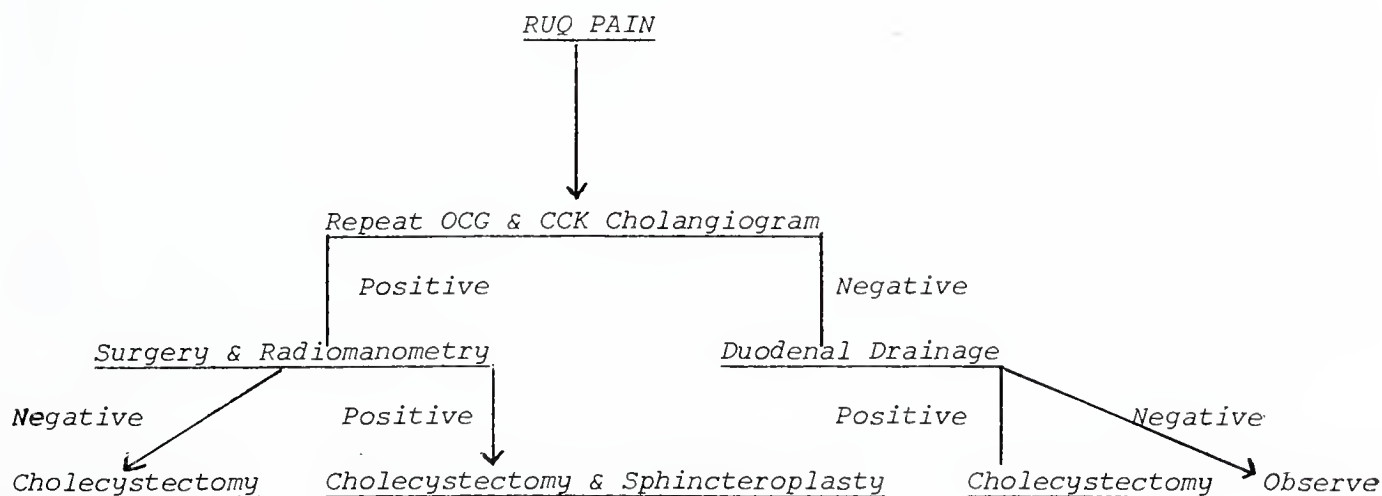
Several further diagnostic modalities are available. The most direct and least costly route to diagnosis is the preferred one. This approach and our collection of these patients is presented here.

It is important to recognize the difficulty that this group of patients represents. Before this group is considered for operative intervention they should undergo exhaustive attempts at diagnosis of nonbiliary disease. Prior to operation on any patient who we consider fits into this category we routinely employ upper gastrointestinal series with small bowel follow through and barium enema with intravenous pyelogram. Judicial use of these studies simplify the problem with which we are presented.

Our approach to the problem of right upper quadrant pain in patients with functional gallbladders without cholelithiasis and with objective evidence of no other intraabdominal disease begins with the initial recognition of pathological entities of acalculus cholecystitis, cystic duct fibrosis, and fibrosis of the Ampulla of Vater. When admitted to the hospital we ask our radiologists to repeat oral cholangiography and to pro-

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DIAGNOSTIC SCHEMES



ceed with cholecystokin cholangiography at the same examination if the oral cholecystogram reveals function without stones. If the patient's pain is not reproduced and if the gallbladder expels 50% of its volume on cholecystokin cholangiography, cystic duct fibrosis and fibrosis of the Ampulla of Vater are excluded as diagnoses. If the pain is reproduced with cholecystokin operative intervention is indicated. At surgery we routinely employ biliary radiomanometry. If the opening pressure of the Ampulla of Vater is greater than 20 cm. of water on the average of three determinations, sphincteroplasty in addition to cholecystectomy is performed. If manometry is 15 cm. of water or less, cholecystectomy with care to provide a short cystic remnant is performed.

In the group of patients with both normal repeat oral cholecystograms and normal cholecystokin cholangiograms, duodenal drainage is the next procedure. A positive result is interpreted as the presence of calcium bilirubinate crystals, white blood cells, or bacteria. This can be done in junction with esophagogastroduodenoscopy to exclude primary gastric pathology. When positive duodenal drainage is obtained, cholecystectomy is the procedure of choice. We do not routinely employ cystic duct cholangiography in the absence of liver function abnormalities and stones. The group of patients who have normal repeat

oral cholecystograms, cholecystokin cholangiography, and duodenal drainage represent those which special studies may be indicated. Endoscopic retrograde cholangio-pancreatography and computerized axial tomography can be used in patients with suggestive histories of pancreatic disease.

In light of a totally normal evaluation, clinical observation of two or three months as an out-patient is warranted. Should the pain persist laparotomy may be indicated. At laparotomy the gallbladder should be aspirated and a specimen evaluated for crystals, bacteria and white cells. The finding of abnormalities in the bile warrants cholecystectomy. Empirical cholecystectomy may be warranted if the operative findings indicate cholecystitis. If cholecystectomy is undertaken radiomanometry of the biliary tree is employed. Again opening pressure of the Ampulla of Vater greater than 20 cm. of water or the average of three determinations dictates sphincteroplasty in addition to cholecystectomy.

Special interest situations occur when in any of these patients operative findings include a common bile duct over 1.5 cm. in diameter. This may occur as a residual of common duct stones, ampullary disease, or a variant of Carolis disease. In these patients we have employed choledochoduodenostomy with success. With a normal size common bile duct, this procedure is difficult

CASE REPORTS

PATIENT	AGE	SEX	OCG	CCK GRAM	DUODENAL DRAINAGE	OPERATION	PATHOLOGY	SYMPTOM FREE PERIOD
1. S.C.	26	F	Normal	Abnormal	0	GB, CDC, Appendectomy	Cystic Duct Fibrosis	9 Months
2. M.O.	32	F	Normal	Abnormal	0	GB, Appendectomy	Chronic Cholecystitis	2 Months
3. B.J.	50	F	Normal	Abnormal	0	GB Appendectomy	Chronic Cholecystitis	2 Months
4. V.B.	19	F	Normal	Abnormal	0	GB	Chronic Cholecystitis	4 Months
5. C.J.	49	F	Normal	0	Abnormal	GB	Chronic Cholecystitis	18 Months
6. L.A.	55	F	Normal	0	0	GB	Chronic Cholecystitis	18 Months
7. D.T.	32	F	Normal	0	Abnormal	GB, Appendectomy	Chronic Cholecystitis	5 Months
8. S.T.	34	F	Normal	0	Abnormal	GB, Appendectomy	Chronic Cholecystitis	20 Months

GB — Cholecystectomy

CDC — Cystic Duct Cholangiography

0 — Not done

and should be abandoned in favor of sphincteroplasty.

At any operation in this subset of patients we employ incidental appendectomy if appropriate. These are difficult patients to resolve their complaints and represent a dilemma which we feel is rectified most judiciously with this clinical approach.

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ELECTROCARDIOGRAM

OF THE MONTH



The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 510)

HISTORY:- B. N. is a 56-year-old woman who presented for physical assessment prior to embarking on an exercise program. The patient gave no cardiovascular symptoms, but did indicate that she smoked, drank coffee, and used alcohol. Her physical examination revealed rare cannon "a" waves in her jugular pulse, an occasional irregularity of her arterial pulse, and a first heart sound essentially of constant intensity. The electrocardiogram shown here was done as part of a proposed exercise treadmill examination.

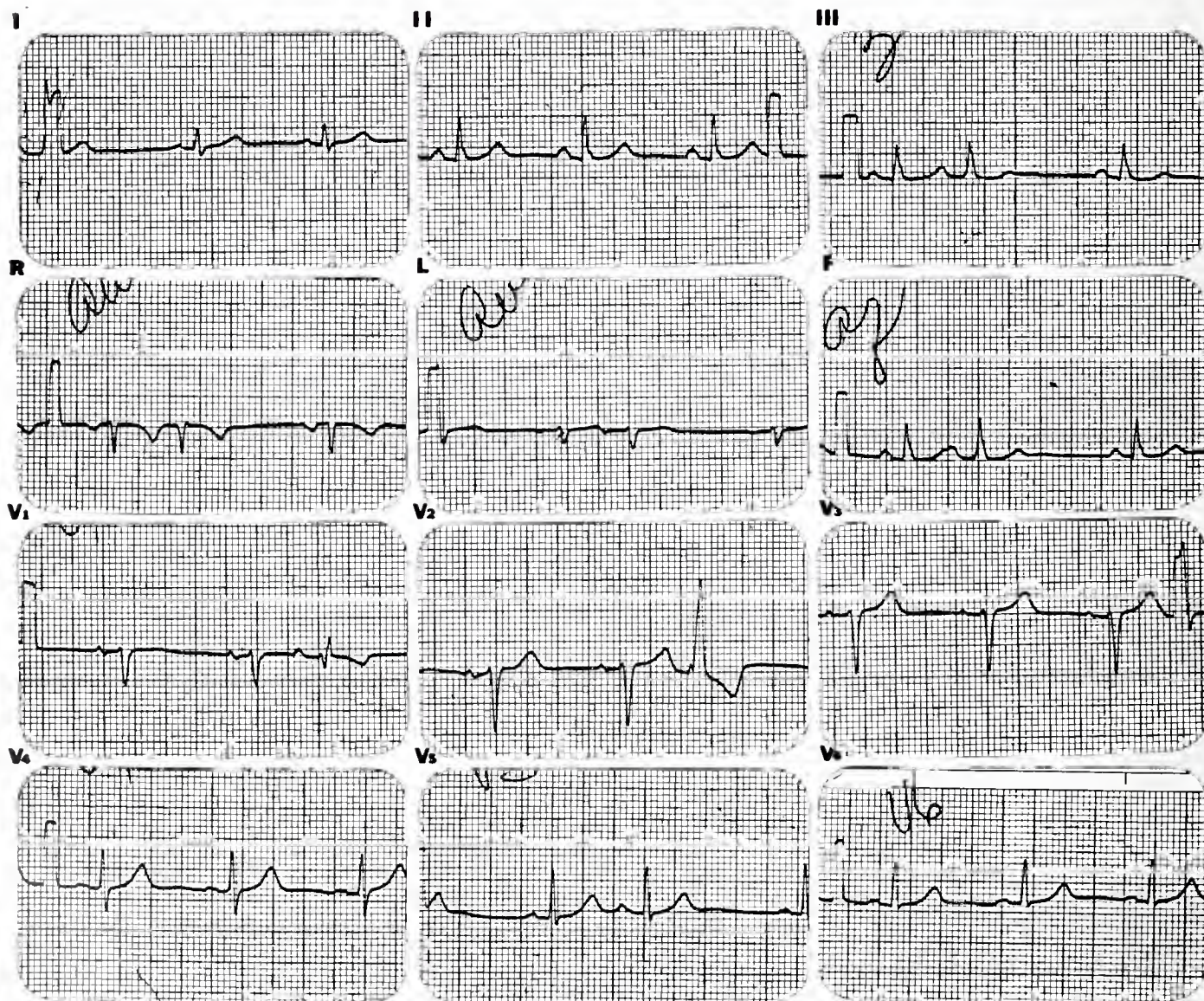
At this point should one:

- A. Cancel the treadmill study.
- B. Admit her to a hospital.
- C. Treat her with lidocaine.
- D. Treat her with quinidine, digoxin, propranolol, or procainamide.
- E. Recommend life style modification.

MED REC 18

Reported by

M.D.



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Office Orthopaedics

Anterior Lumbar Spine Fusions Revisited

H. Austin Grimes, M.D.*

The natural history of degenerative disc disease of the lumbar spine, most often encountered at the L4-5 and L5-S1 levels, follows a course which progresses through five separate stages, even though on occasions, these levels of change will not be obvious.

During all stages, many remedies have been tried in various combinations. These consist of bedrest, analgesics, muscle relaxants, physical therapy, including heat, pelvic traction, massage, ultrasound, electrostimulation and transcutaneous nerve stimulation. Also, a gradual exercise program to stretch lumbar muscles along with strengthening of the abdominal muscles is recommended. Occasionally, corsets or braces are used for additional support.

When nerve root signs are present, when unrelieved in an uncontrolled environment, consideration must be given for operative intervention. A definitive diagnosis then becomes essential and is assisted by the use of electromyography, lumbar myelography (either with Pantopaque or Amipaque), epidural venography, spinal fluid analysis and manometric studies, along with cine-radiography and recently, computerized myelography alone, or in combination with Amipaque myelography, have brought a new dimension to the diagnosis of lumbar disc disease.

Ordinarily, a posterior approach for removal of recently herniated disc is performed in combination with partial or total laminectomy. Removal of the offending disc material is usually accomplished as completely as can be done through this rather limited approach. This often

takes care of the acute nerve root symptoms, at least, to some degree. Most of the operations for disc disease stop here. Varying degrees of successful relief of the disc syndrome result from this standard "treatment."

Whether surgery is, or is not, performed at this stage, there will still be progression of the degenerative process which affects all who experience it. The late stages consist of arthritis of the facet joints, narrowing of the disc space, and limited motion. Posterior osteophyte formation and still later, bony sclerosis and spinal stenosis (loss of neural canal space) occur.

A few years ago, lumbar disc removal was routinely accompanied by a spinal fusion that was most often performed posteriorly, but also anteriorly on occasions through a separate approach. The posterior spine fusion may demonstrate several drawbacks when both the L4-5 and the L5-S1 spaces must be arthrodesed. One of which, is that approximately 50% of those patients undergoing a two-level fusion by the posterior approach will fail to fuse solidly at the L4-5 level. The anterior approach did not fair much better. It too, produced failures of fusion.

Even so, the argument for anterior approach for acute and chronic back disease has merit. It is our opinion that the anterior approach has not been utilized often enough. The rationale of the anterior approach is the same as that applied to management of disc disease occurring in the cervical spine. Removal of the offending disc can be more complete. Even disc material protruding into the canal can be recovered by direct visualization of the site. The obvious argument against this approach is that extruded disc material usu-

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ally cannot be recovered, but is not valid. However, relatively few cases of frankly extruded herniated lumbar disc occur. In those instances, the posterior approach is still preferred at the present.

Determination of the existence or absence of a posterior extrusion of disc material has often been difficult by myelography or epidural venography, but now with the third and fourth generation C-T scanners, this question is much better delineated. The decision whether to operate anteriorly or posteriorly can now be made with this knowledge available.

Removal of the diseased disc alone will not prevent the occurrence of late stage changes. Only a spine fusion performed at the time of the disc excision can do that.

Fifty years ago, the anterior approach to spine

fusion was suggested and subsequently performed by a number of surgeons, either transperitoneally or retroperitoneally. The offending disc, or discs, were resected after which attempts at re-establishment of the intervertebral body interval by distraction and insertion of grafts from the iliac crest, which will remain secure. Early ambulation was then recommended with a back brace or surgical corset.

The essence of this short report is that the anterior surgical approach to lumbar disc disease offers an alternative approach to the patient with recent disc disease and to those who have undergone earlier disc procedures, a better method of fusion for the patient with a late disc and apophyseal joint changes. Also, it offers hope for that significant segment of the population suffering from this debilitating affliction.



Medical Grand Rounds

Treatment of Morbid Obesity with Protein-Sparing Modified Fast

Darrell W. Craig, M.D.*

Introduction

The human body's ability to store food energy as fat was essential for survival at time when food supplies were scarce and sporadic. In Western society today, this is rarely the case. Instead, we have constant and abundant food supplies, making the ability to store energy as fat in many individuals of negative survival benefit.

In this presentation, I will discuss definitions and classifications of obesity, simple measures of assessment of excess body fat, the prevalence of obesity and the major health sequelae of obesity. I will then discuss one method of treatment of morbid obesity, the protein-sparing modified fast, its biochemical background, its risks and side effects, follow-up results of this method as reported in the literature, and close with my personal experience with this method.

Definitions and Classifications of Obesity

Obesity is often defined as an excess of adipose tissue; however, the meaning of excess is frequently arbitrary. Obesity may take on a social definition in which clearly visible excess body fat results in social discrimination. A statistical definition of obesity would classify persons in the upper 5 to 20 percent of whatever criterion is used to assess body fat, as being obese and those in the upper five percent as the "super-obese." Another statistical definition of the super-obese might be those individuals who were 50 to 100 percent above their desirable weight. A third method of defining obesity would be an operational one in which a level of overweight is estimated below which there is no improvement in morbidity or mortality. This level would be different for the two sexes, and racial, geographic and other factors might have a bearing.¹

The term "morbid obesity" was first used by Payne and DeWind in 1963 when they were attempting to persuade health insurance administrators that reimbursement for the cost of intestinal bypass surgery in the grossly obese could be justified on health grounds.² Although other criteria exist, for our purposes we will categorize those individuals who are 100 percent or more overweight as morbidly obese, those individuals 30 to 100 percent overweight as severely obese and those 10 to 30 percent overweight as mild to moderately obese.³

The term exogenous obesity has long been used to classify obesity once gross endocrine disorder and brain damage have been eliminated. Since all obesity is exogenous with respect to energy balance, some authors would favor abolishing this classification in that it implies that the patient is at fault for allowing such a state to develop, thus relieving the physician of any need to pursue prime causes and possible points of attack. At the current time there is an interest in classifying obesity as either "early onset, universal distribution of obesity with probable hyperplasia of adipocytes" or "adult onset with central distribution." This distinction may prove to be important in that adult onset obesity with central distribution carries a high morbidity, particularly with respect to metabolic disorders.¹ Also, some authors feel that early onset obesity is more refractory to therapy.⁴

Assessment of Obesity

Many methods of assessing obesity exist. Sophisticated research tools include the use of radioisotopes to estimate body fat. Skin fold thickness is the simplest objective way of assessing fatness, however, it carries a greater risk of error than measurements of height, weight or circumference. Various indices involving height and weight exist, however, they cannot be used as anything more than an index of overweight as they can falsely suggest that a very muscular individual is obese and fail to recognize an individual with atrophic muscle mass and increased body fat.

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Presented at Medical Grand Rounds, University of Arkansas for Medical Sciences, Division of General Medicine, Little Rock, Arkansas.

Edited by George L. Ackerman, M.D., Professor of Medicine and Vice Chairman, Department of Medicine, University of Arkansas for Medical Sciences, Little Rock, Arkansas.

The body mass index (weight/height²) has the highest correlation with independent measures of body fat. "Ideal" body mass index for men using the metric system is 22.1 kg/m² and for women 20.6 kg/m².¹ For clinical use, a quick calculation of body weight based on height using the formula of 105 pounds for the first five feet and six pounds for each inch over five feet in men and 100 pounds for the first five feet and five pounds for each additional inch for women is frequently helpful as most individuals know their height and when considering weight loss, formulation of a goal weight can be based on some variation of this "ideal" weight. These easily calculated figures fall in some close proximity to the values obtained from the Metropolitan Life Insurance tables. Even simpler methods of assessing adiposity include the rules and belt tests. If a ruler placed on the sternum of a supine subject slopes upward toward the umbilicus, that individual is obese. If a belt adjusted snugly around the lower rib cage cannot be slipped down over the abdomen, the patient is definitely obese.¹ Men with a waist girth exceeding 36 inches are almost always too fat, as are women with girths greater than 30 inches.⁵

Prevalence of Obesity

No matter what criteria are used to assess adiposity, obesity is extremely common in the United States. In the 20-74 age group, 14 percent of men and 25 percent of women are 20 percent or more overweight. A higher percentage of men than women are 10-19% overweight, but the reverse is true in the case of 20% or more overweight. The percentage of women and men, ages 25-44, who are 20% or more overweight was higher in 1971-74 than in 1961-62. This suggests that, despite near equal overall prevalence of obesity between the two studies, the proportion of individuals who have been fat for 30 to 50 years is higher now than in previous generations.

Black women are more likely to be obese than white women, regardless of age or income level. Among people ages 45-64 whose incomes are below the poverty level, 49 percent of black women and 26 percent of white women are 20 percent or more overweight. In the same age group in the lower income group, only four percent of black men and five percent of white men are overweight. In the 35-64 age bracket, and in the income level above poverty, 40 percent of black women and 28 percent of white women are over-

weight. In the same age bracket, 12 percent of black men who are above poverty level and 13 percent of the white men above poverty level are overweight.⁶

Morbidity and Mortality Associated With Obesity

There is ample evidence that obesity is associated with increased mortality. Most studies have used actuarial data from life insurance companies which may not be fully representative of the general population. However, the American Cancer Society study of 1959 to 1973 suggests that mortality rates in the general population closely approximate that of insured lives. The one difference is that the lowest mortality in the American Cancer Society's study was observed in those 5-10 pounds underweight rather than among those 15 to 20 pounds underweight as observed in the Build and Blood Pressure Study in 1959. In the Build Study of 1979, figures were more comparable to those of the American Cancer Society study.³ Data soon to be published from the Framingham Heart Study suggest that skinny persons who do not smoke live the longest. Dr. Reubin Andres of Baltimore recently reviewed 16 studies which he contends show, instead of the direct effect of obesity on mortality, a beneficial effect of obesity with regard to mortality.⁷ He appears to be in the minority camp, however.

The increase in mortality with rising overweight is not linear. Among men the extra mortality for the first 30 percent overweight is less than the increased mortality for the next 20 percent and is comparable to the extra mortality associated with the next 10 percent overweight.² A study conducted at Wadsworth Veterans Administration Hospital in Los Angeles suggests that in males in the 25-34 year age group, morbid obesity is associated with a twelve-fold increase in mortality and in the next category, 35-44 age bracket, a six-fold increase in mortality.⁸

Diseases caused by, associated with or exacerbated by obesity fill a long list, an example of which is included in Table 1. From a public health standpoint, the most important disorders to which obesity contributes include cardiovascular diseases, diabetes mellitus, gallbladder disease and musculoskeletal disorders.

The evidence connecting obesity with an increased risk of developing coronary artery disease is both consistent and substantial in both case studies and prospective population investigations.

The increased risk of developing heart disease appears to arise chiefly from the atherogenic traits of hypertension, diabetes and hyperlipidemia which are promoted by obesity. Whether or not obesity exerts an independent, direct effect on coronary artery disease is of little consequence since its indirect effects are well documented. A number of prospective studies have attempted to correlate obesity with cardiovascular disease. The studies of shorter length have failed to show obesity as an independent contributor of risk. In addition to its indirect role, evidence exists to suggest that obesity acquired between the ages of 20 and 40 may have a much greater effect on the development of subsequent cardiovascular disease than obesity which occurs after the age of 40. This association in men with onset of obesity in young adult life was not evident until 16 years of follow-up.³

The data from the Framingham study are clear that obese persons are more likely to develop cardiovascular disease than non-obese individuals; however, when multivariant analysis is used, obesity acts as only a weak independent risk factor. Nevertheless, as the Framingham investigators comment, "because it reversibly promotes atherogenic traits like hypertension, diabetes and hyperlipidemia, reduction of overweight is probably the most important hygienic measure (aside

Secondary polycythemia

Right ventricular hypertrophy (sometimes leading to failure)

Hepatobiliary system

Cholelithiasis

Hepatic steatosis

Hormonal and metabolic functions

Diabetes mellitus (insulin dependent)

Gout (hyperuricemia)

Hyperlipidemias (hypertriglyceridemia and hypercholesterolemia)

Kidney

Proteinuria and, in very severe obesity, nephrosis

Renal vein thrombosis

Skin

Striae

Acanthosis nigricans (benign type)

Hirsutism

Intertrigo

Plantar callus

Multiple papillomas

Joint, muscles, and connective tissue

Osteoarthritis of knees

Bone spurs of the heel

Osteoarthritis of spine (in women)

Aggravation of preexisting postural faults

Neoplasia

Increased risk of endometrial cancer

Possibly increased risk of breast cancer

Reproductive and sexual function

Impaired obstetrical performance (increased risk of toxemia, hypertension and diabetes mellitus during pregnancy, prolonged labor, need for Caesarian section more frequent)

Irregular menstruation and frequent anovulatory cycles

Reduced fertility

Psychosocial function

Impairment of self-image with feelings of inferiority

Social isolation

Subject to social, economic, and other types of discrimination

Susceptibility to psychoneuroses

Loss of mobility

Increased employee absenteeism

Miscellaneous

Increased surgical and anesthetic risks

Reduced physical agility and increased accident proneness

Interference with diagnosis of other disorders

Table 1.

**Some Health Disorders and Other Problems
Thought to Be Caused or Exacerbated
By Obesity***

Heart

Premature coronary heart disease

Left ventricular hypertrophy

Angina pectoris

Sudden death (ventricular arrhythmia)

Congestive heart failure

Vascular system

Hypertension

Stroke (cerebral infarction and/or hemorrhage)

Venous stasis (with lower extremity edema, varicose veins, hemorrhoids, thromboembolic disease involving lower extremities and inferior vena cava)

Respiratory system

Obstructive sleep apnea

Pickwickian syndrome (alveolar hypoventilation)

*American Journal of Clinical Nutrition, 32:2725, 1979.

from the avoidance of cigarettes) available for the control of cardiovascular disease."⁹

The association between obesity and non-insulin dependent diabetes is very strong. One prospective study showed that in moderate obesity, risk of diabetes was increased about ten-fold. In those whose weights exceeded the standard by 45 percent or more, the risk was increased about thirty-fold.³

There is a positive correlation between obesity and gallbladder disease. Obese persons tend to hypersecrete biliary cholesterol and are more likely to have "lithogenic" bile or bile consistently saturated with cholesterol relative to bile salts and phospholipids. Cholesterol gallstones occur three times more frequently in morbidly obese subjects when compared to normal controls.³

Osteoarthritis of weight-bearing joints, particularly the knees, is probably a greater cause of disability among obese individuals than generally appreciated. Osteoarthritis of the spine is significantly increased in obese women but has not shown a significant increase in obese men.³

Increased risk for the development of cancer of the endometrium appears to be caused by the increased conversion of androstenedione to estrone by adipose tissue. This increased estrogenicity in obese postmenopausal women may increase their risk of developing breast cancer though a clear association has yet to be demonstrated.³

Treatment of Obesity With the Protein-Sparing Modified Fast

A variety of modalities has been attempted in the treatment of obesity. These modalities can be grouped as follows: many kinds of calorie restricted diets, total starvation or zero-calorie diet, fasts supplemented with natural protein or protein plus carbohydrate, behavioral techniques, self-help groups that may use one or more of the above modalities, pharmacologic agents, jaw wiring, acupuncture, hypnosis and surgical intervention.⁶

In 1959, Stunkard and McLaren-Hume reviewed the literature on treatment of obesity. At that time they could find eight studies that presented sufficient data to be analyzed. In seven of those eight studies, less than 30 percent of patients lost 20 pounds or more.¹⁰ A more recent review by Wing and Jeffery found an average weight loss in reviewable studies of slightly over 12 pounds, and only a 20 percent chance of an individual losing 20 pounds or more. The re-

viewers did not have sufficient data to compare drug, exercise, diet and behavior therapies.¹¹

Total fasting was first recommended as an effective treatment of obesity in 1915 by Folin and Dennis.¹² Because of complications associated with total fasting, it is generally felt to necessitate hospitalization. It is not recommended as a routine procedure primarily for two reasons. Excessive loss of lean body mass occurs in early starvation. After several weeks, nitrogen loss is greatly diminished. Therefore, neither short-term periods of fasting (less than two weeks) nor intermittent fasts are of particular benefit. The expense of total fasting in the hospital is too great to justify, particularly in light of the fact that most patients rapidly regain the weight lost. With supplemented fasting, an attempt is made to gain the benefits of starvation in the form of rapid weight loss and high degree of adherence while minimizing loss of lean body mass and minimizing side effects to allow out-patient usage.¹³

Biochemical Background

A brief review of the metabolic events related to starvation and its application to supplemented fasting seems warranted. About four to five hours after the last meal, energy for central nervous system function in the form of glucose is provided by hepatic glycogenolysis. The signals for this process are felt to be two-fold — a fall in insulin levels with a resultant shift in the insulin-glucagon balance to favor glucagon, and the lowered level of portal glucose. During this initial phase of declining glucose and insulin levels, there is progressive decline in the use of glucose as an energy substrate in peripheral tissues so that at approximately eight to ten hours, over half of the energy needs of muscle are met by free fatty acid oxidation. Free fatty acids rise as triglyceride lipolysis is triggered by the low levels of insulin.

Glycogen stores in the liver are generally adequate to maintain blood sugars for 12-16 hours. At this stage, glucokinase activity is decreased and glucose 6-phosphatase activity is increased. At the level of three carbon intermediates, pyruvate is no longer oxidized to acetyl CoA. Instead, the pyruvate is carboxylated to oxaloacetate which is in turn converted to phosphoenol pyruvate which is swept upward into the production of glucose. This process is a result of the increased glucagon to insulin ratios and a higher level of free fatty acids which increase the fat oxidation and produces a higher level of fat-derived materials such

as acetyl CoA and fatty acyl CoA.

Over the ensuing two to three days of starvation, muscle and adipose tissues become progressively more efficient at preventing glucose utilization. As fasting continues, little oxaloacetate is available to combine with acetyl CoA and enter the tricarboxylic acid cycle. The acetyl CoA is then exported by the liver two molecules at a time in the form of beta-hydroxybutyrate or acetoacetate, the ketone bodies.

Ketone body levels reach their peak and plateau at the end of the second week of starvation. With elevated ketones, bicarbonate diminishes and a mild compensated metabolic acidosis ensues. At this point, there is now a sufficient gradient for facilitated diffusion of ketone bodies across the blood-brain barrier to satisfy the brain's energy needs. When the brain is able to utilize ketones as a fuel, the utilization of glucose diminishes accordingly. The need for amino acid substrate for gluconeogenesis diminishes with a resultant "sparing" of muscle protein. At this time muscle no longer uses ketoacids as fuel, rather it acts as a supplier of ketoacids for utilization by the brain through preferential oxidation of fatty acids. The excess oxidation of fatty acids that occurs appears to result in decreased oxidation of deaminated residues of the three branched chain amino acids, thus maintaining muscle protein, particularly leucine.¹⁴

It has been shown that once ketone body production plateaus, nitrogen balance can be maintained through the addition of protein as a dietary substrate. In theory, the addition of carbohydrate would cause insulin levels to rise, making free fatty acid utilization and ketone production and utilization less efficient and, therefore, there would be less sparing of lean body mass. One study to date, however, has shown no difference in nitrogen sparing features between 400 calorie diets of protein alone versus 50 percent protein and 50 percent carbohydrates.¹⁵ With this background, I will proceed with a discussion of the features of the protein-sparing modified fast.

The Protein-Sparing Modified Fast

The protein-sparing modified fast, as developed by Bistrian and Blackburn, consists of 1.5 gm. protein per kilogram ideal body weight using protein of high biological value from meat, fish or fowl and supplemented with vitamins and minerals.¹⁶ Other workers have used casein or egg albumin combined with 20-30 gms. of carbo-

hydrate per day.¹³ Due to the expense of "formula" diets, we favor the use of a variety of meat, fish and fowl. Another reason to avoid formula diets is their association by both the lay public and professionals with the liquid protein diet of the early 1970's. Numerous unexpected deaths occurred in individuals on this diet even in some patients who were closely supervised. The difference between the liquid protein diet and the protein-sparing modified fast is that in the former the protein was of low biological value with hydrolysates of collagen to which tryptophan was added. Since not all the essential amino acids were provided there was no protein sparing effect and unfortunately the body does not distinguish between skeletal and cardiac muscle when amino acids are needed for gluconeogenesis.

Other specific daily requirements on the diet include 25 mEq of potassium with the protein providing the other half of the daily potassium requirement, a multi-vitamin with minerals, 5 gm. sodium chloride and 800 mg. of elemental calcium. The patient should drink at least 1500 ml. of fluids.¹⁶ In addition to these standard supplements, we have the patients take a magnesium containing antacid as both a mild laxative and a source of magnesium.

Risks and Side-Effects

Side-effects of the protein-sparing modified fast include fatigue and headache which are generally transient and resolve as the patient adapts to the use of ketones as an energy fuel. Other side-effects include hair loss, dry skin, cold intolerance, amenorrhea and decreased libido. Because of the diuretic effect of ketones, many individuals experience orthostatic dizziness. All patients should be warned regarding this side-effect and cautioned against sudden position changes. Almost all patients should have diuretic therapy stopped at initiation of the diet as the ketones act as a potent diuretic. Muscle cramps can be a side-effect of the diet and may be related to electrolyte imbalance. Gout may be precipitated in individuals prone to develop this disease.

Arrhythmias and sudden death are risks associated with the protein-sparing modified fast, though in the absence of cardiovascular disease the risk appears to be minimal. In one series of about 1,300 patients, three individuals died of probable sudden death and all had prior evidence of cardiac disease.¹⁸ When considering morbidity and mortality associated with morbid obesity, the

risk of arrhythmias is usually justifiable though the patient should be advised of the risk. A baseline EKG with particular note of the QT interval and serial EKG's are warranted in following individuals on the protein-sparing modified fast.

Absolute contraindications to the protein-sparing modified fast include insulin-dependent diabetes mellitus, pregnancy and recent myocardial infarction. Relative contraindications include adolescence as the protein-sparing modified fast should still be considered experimental in this time of rapid bone growth, cerebrovascular disease, and advanced age. Renal and liver diseases requiring limitation of protein intake are additional relative contraindications.¹⁹ With renal insufficiency, the diet will potentiate the metabolic acidosis and should be used with great caution if at all.

Effectiveness of Protein-Sparing Modified Fast

Effectiveness of the protein-sparing modified fast in achieving weight loss has been documented. In one program almost 80 percent of patients lost a minimum of 40 pounds with women averaging a weight loss of just under three pounds per week and men averaging just over 4.5 pounds per week.²⁰ Unfortunately, the weight loss is not generally maintained. Fifty percent of individuals regained to their original weight within two years in another study group and only 10 percent remained at a reduced level at nine years after supplemented fasting. Discouraging results occurred when a group of patients who had regained their weight were subjected to a second round of weight reduction. The adherence to a repeat fast was less faithful and weight loss was not as great as with the first attempt.⁴

Personal Experience

The major referral source for patients has been the University of Arkansas for Medical Sciences General Medicine Clinic although the pulmonary service has referred several patients with obstructive sleep apnea and obesity.

A team approach is used utilizing a registered nurse practitioner and a clinical nutritionist. On the initial visit, I tell the patient, in general terms, the features of the diet including side-effects and risks. The patient is then introduced to the registered nurse practitioner who reinforces information regarding the diet and assesses the patient's level of understanding. Baseline laboratory is obtained including hematocrit, electrolytes, creatinine, glucose, uric acid, EKG and other tests

as directed by the patient's history and physical. He is then asked to return in approximately one week before beginning the program to allow a time period for decision making.

Specifics regarding supplements, other medications, fluid intake and exercise are covered by the registered nurse practitioner. The patient then meets the nutritionist who calculates the patient's protein requirement and introduces the patient to food measurement and ways of preparing the protein to improve palatability.

Initially, patients are asked to see the nurse practitioner and nutritionist. If medical problems exist, they are referred to me and I see the patient at least one time a month. Clinic routine includes obtaining the patient's weight and postural blood pressure and checking his urine for acetone. Laboratory data are obtained fairly frequently initially and an EKG is obtained at least once monthly observing limb lead voltage and QT interval. As the patient continues on the protein-sparing modified fast and is doing well, laboratory tests are obtained about once monthly.

The last stop on a routine visit is with the nutritionist who works with the patient regarding food preparation and, in the non-compliant patient, tries to assess areas where the patient either knowingly or unknowingly is faltering.

Notes are compared at the end of the day which is helpful in the management of individual patients. In general, patients will discuss problems or feelings with the least threatening individual. In our case, medical problems are frequently called to the attention of the nutritionist while food selection indiscretions are frequently revealed to the nurse practitioner or physician.

Our patients are told initially that in order to be followed in the clinic they must lose weight in a consistent manner or have positive urine acetone checks. We allow a four to six week trial period and, if the patient is unsuccessful in weight loss, he is referred back to his initial physician, usually a resident in the General Medicine Clinic.

Table 2 summarizes our first several months' experience. Our most successful patients have been those patients with strong motivating factors such as the obstructive sleep apnea patients who have been told weight loss may allow closure of their tracheostomies and non-insulin dependent diabetics who have had local insulin reactions or aversion to insulin injections in whom we have discontinued insulin therapy. Though not per-

Table 2.

<i>Pa- tient</i>	<i>Age/Sex</i>	<i>Related Disease</i>	<i>Initial Weight</i>	<i>IBW</i>	<i>Current Weight</i>	<i>No. Wks.</i>	<i>Rate of Weight Loss</i>	<i>In-Pt. Out-Pt.</i>	<i>Ketotic</i>	<i>Comments:</i>
VSJ	44/WF	Obstructive Sleep Apnea	276	130	161	28	—4.0/wk.	In-Pt.	Always	Walks 3 mi./day Vertigo Orthostatic hypotension
EWi	37/BF	HPT, CHF	378.5	115	368	3	—3.5/wk.	In-Pt.*	Always	
AW	42/BF	NIDDM	313.5	125	307	2	—3.25/wk.	Out-Pt.	Always	Night eater Childhood Model Blood sugar pre, 285; current, 181
BR	58/BF	NIDDM	196	130	171.25	8	—3.25/wk.	In-Pt.*	Always	Blood sugar pre, 243; current, 336
AJ	57/BF	Obstructive sleep apnea	321	120	276.5	16	—2.75/wk.	Out-Pt.	Intermittently	
EE	56/WF	Obstructive sleep apnea	291	120	242	20	—2.5/wk.	In-Pt.	Initially, not now	
CC	66/BF	NIDDM	301.75	125	241	26	—2.25/wk.	In-Pt.*	Intermittently	Previously on 110 units Insulin with BS of 429 Most recent FBS—140
SC	60/WF	NIDDM Hypertri- glyceridemia	226	140	194	11	—2.25/wk.	In-Pt.*	Occasionally	Previously 55 units Insu- lin with FBS—290—310, TG—2800, Chol—590 Current—FBS—217, TG—425, Chol—149
RW	50/BF	HPT, Gout	291	105	269	13	—1.75/wk.	Out-Pt.	Once	
EWa	48/BF	Obstructive sleep apnea	269	110	195	52	—1.5/wk.	In-Pt.	Rarely	Lowest weight—177 Corrected rate loss — .5/wk.
VLH	48/WF	NIDDM, HPT	184	135	169	11	—1.25/wk.	In-Pt.	Initially, not now	Previously on 45 units Insulin low BS—167, current—208
PH	43/BF	NIDDM	217.5	110	208.5	8	—1.25/wk.	Out-Pt.	Never	Considering discontinuing
AT	57/BF	DJD, HPT	314.5	115	303	14	— .75/wk.	Out-Pt.	Never	
LW	57/BF	NIDDM	277	115	273	13	— .25/wk.	Out-Pt.	Never	Previously on 34 units Insulin with FBS of 301 Lowest FBS 211 Current—279
RH	52/BF	NIDDM	200	130	200	4	0	Out-Pt.	Never	“Cushingoid” Habitus Previously on 45 units Insulin Weight 170.5 when Insulin started Blood Sugar start 492; currently 336

DROP-OUTS

AB	31/BF	NIDDM	249	110	244	2	—2.5/wk.	Out-Pt.		Financial and transpor- tation difficulties, cur- rent weight greater than start weight
DB	47/BF	HPT	261.5	125	248	7	—2.0/wk.	Out-Pt.		Non-compliant
CM	24/WF	None	284.5	125	268.5	10	—1.5/wk.	Out-Pt.		Stopped at patient's request

TREATMENT OF MORBID OBESITY WITH PROTEIN-SPARING MODIFIED FAST

Patient	Age/Sex	Related Disease	Initial Weight	IBW	Current Weight	No. Wks.	Rate of Weight Loss	In-Pt. Out-Pt.	Ketotic	Comments:
MD	44/BM	NIDDM	300.5	185	293	5	-1.5/wk.	Out-Pt.		Non-compliant
PH	40/WF	NIDDM, HPT Nephrotic syndrome	236	140	216.5	15	-1.25/wk.	Out-Pt.		Previously on Insulin BS at start 322 Best BS 227 BS at D/C 408
MR	35/BF	HPT	328	120	324	5	-.75/wk.	Out-Pt.		Non-compliant
ST	57/BF	NIDDM	229.5	110	230	2	+.25/wk.	Out-Pt.		Non-compliant

*Began with total fast.

NOTE: HPT — hypertension

CHF — congestive heart failure

NIDDM — non-insulin dependent diabetes mellitus

DJD — degenerative joint disease

formed in a controlled manner, patients whose protein-sparing modified fast was begun in the hospital environment have in general performed better than those whose diet was begun as an out-patient. If success is greater, a brief (two to three day) admission could perhaps be justified.

In conclusion, I would make an appeal for obesity to be considered as a chronic disease for which effective treatment results in remission, not cure. If one considers remission as a stabilization period of varying duration where symptoms of the disease are diminished or abated, then one is more apt to schedule a series of follow-up visits to look out for those problems that might cause the disease to relapse and to train the patient to use self-monitoring techniques to be used between visits. If one applies these principles to obesity, perhaps long-term results in the management of obesity will improve.²¹

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EDITORIAL

Somatostatin

Alfred Kahn, Jr., M.D.

Six years ago Somatostatin was isolated. A wealth of material has been published on it since then. The September, 1978, issue of "Metabolism" contains a Somatostatin Symposium. In this Symposium Brazeau, et al, reports that Somatostatin effect was first noted by Krulich and McCann; it inhibited pituitary growth hormone. It is also said to inhibit thyrotropin release in certain situations. Outside the pituitary, somatostatin has been found to inhibit the secretion of insulin, glucagon, gastrin, secretion vasoactive intestinal peptide, renin motulin, and cholecystokinin. Brazeau states that the dosage in the experimental work above may have been pharmacologic rather than physiologic in size.

Arimura, et al, in the same Symposium, has described how the minute amounts of somatostatin can be measured by radio-immune assay. Elde and his group studied the cellular localization of somatostatin by immunofluorescence histochemistry; it was found in the median eminence; it was present to a lesser extent in the nucleus periventricularis; there are a few other areas in the brain containing lesser amounts. Somatostatin is reported in the paravertebral gangliae outside the brain and the sympathetic ganglia, somatostatin in the islets of the pancreas. They are also said to diffuse throughout the gastro-intestinal tract in the D cells. The appearance of human somatostatin begins early in fetal life, and it has been detected by Bugnon, et al, as early as the twelfth week. Apparently, somatostatin is released by the breaking off of tetradecapeptide somatostatin from a precursor, according to Ensink, et al. There may be an intra islet interaction between B and D cells according to Schauder and his co-workers inasmuch as he states that endogenous somatostatin inhibits insulin release and a high level of functioning of the B cells reduces somato-

statin release. This same general idea is also presented by Schusdziarra and his colleagues whose work suggested that somatostatin is found in pancreatic D cells; when the level of foodstuffs and gastro-intestinal hormones increase in the blood stream, somatostatin goes from the D cells into the blood stream in increasing amounts. They further suggest that the "role of pancreatic somatostatin is to regulate nutrient influx from the gastro-intestinal tract into the circulation in coordination with the needed regulation of nutrient disposal to the tissues, thus providing A, B and D cells with control over the turnover and concentration of ingested nutrients."

Bloom, Polak and West state that most pancreatic endocrine tumors are made up of all pancreatic glandular cell types. Somatostatin has been identified in such tumors and small amounts of this somatostatin may significantly inhibit the release of insulin, glucagon, gastrin, V.I.P., and P.P. Polak, Bloom, Bishop and McCrossan point out that somatostatin is a potent inhibitor gastrin and gastric acid release. They feel that peptic ulcers may be an imbalance involving somatostatin — or at least this may be a contributory factor.

The central nervous system effects of somatostatin were reported on by several groups of authors, Kastin and his group. Somatostatin has a direct action on the brain and nervous system. However, Kastin, et al, state that the effect of somatostatin on the nervous system is puzzling. They do not seem to follow an interrelated pattern.

Guilleman in reviewing current research on somatostatin discusses its relation to the central nervous system. He states that somatostatin has a very definite distribution in the brain — not a

patternless distribution. Somatostatin, he reports, is largely inhibitory in its effects of other polypeptides. He feels that somatostatin may play an important role in the area of the axon and dendrite terminals. This opens the door to many possibilities including a possible relationship to mental disease.

Perhaps, the most interesting report to clinicians is by Lundback whose topic is *Somatostatin: Clinical Importance and Outlook*. He, too, discusses the relationship of somatostatin with the central nervous system and states that although most of the newly discovered peptides included enkephalins, endorphins, etc., obviously effect the

nervous system to the point of mental changes at times — somatostatin apparently has no mental effects. Somatostatin has some beneficial effects on acromegaly but it is an incomplete inhibition of growth hormone. Diabetes mellitus is an obvious disorder to try to treat with somatostatin since insulin gives incomplete control. Lundback suggests that somatostatin may be used to inhibit two of the three “diabetogenic hormones,” namely, growth hormones and glucagon; it would not affect catecholamines.

Somatostatin is a relatively newly discovered hormone and much remains to be elucidated but it is obviously a hormone of major importance.



"From Other Years"*

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EDITORIAL.

ARKANSAS AND THE CHOLERA.

As usual in a threatened epidemic of any nature, the State of Arkansas, so far as organized resistance is concerned, is absolutely at the mercy of the pestilence. Year in and year out her physicians have urged the people's representatives to provide some kind of permanent defense against the invasion and spread of epidemics or pestilence arising within the State, or in danger of introduction from without her borders.



MEDICINE IN THE NEWS



THE MONTH IN WASHINGTON

Congress has sent clear warnings to the White House that President Reagan's budget proposal faces stormy going on Capitol Hill.

Much of the lawmakers' concern centers on the size of the projected deficit — \$91 billion — but strong opposition has also surfaced to the New Federalism plan to turn major programs over to the states and to recommend slashes in domestic programs, including health.

Spearheading the fight for the Administration's budget, David Stockman, head of the Office of Management and Budget, told Congress not to give up on President Reagan's proposals. He predicted in testimony before the Senate Budget Committee that Congress eventually will embrace most of the Administration's program.

However, Stockman said the Administration's position isn't inflexible. "I would dispell the notion that somehow we have said some things are non-negotiable in any absolutely rigid sense."

A radical revision of the Administration's program has been proposed by Senate Budget Committee Chairman Pete Domenici (R-NM), who has been a staunch supporter of the President. The Senator proposed larger tax increases, smaller increases for Defense and a freeze on most domestic programs.

The President's budget "fails to do enough to cut spending and accepts almost benignly what are malignant deficits" that could "crush any hope of economic recovery," said Domenici.

Meanwhile, Senate Finance Committee Chairman Robert Dole (R-KS), who will have a big say in the fate of health programs, said the battle over changes in the budget may reach a climax in April.

In addition to Domenici's alternative budget plan, Senate Majority Leader Howard Baker (R-TN) has suggested a temporary surtax on income to ease the deficit; and Ernest Hollings (D-SC) has recommended a freeze on defense increases, tax increases and entitlement program spending.

The major economy proposed by the Administration in health is a \$5 billion reduction in the

rate of growth of the Medicare and Medicaid programs. The House Ways and Means Health Subcommittee will conduct hearings on this issue during the next month.

President Reagan's plan that would federalize Medicaid and turn major welfare and other health programs over to the states encountered resistance at the annual meeting of governors. However, the National Conference of State Legislatures approved the New Federalism concept with the warning that each of its provisions must be carefully examined and negotiated. The state lawmakers also urged the government to federalize income maintenance and food stamps as well as Medicaid.

Budget Chief Stockman said that if Medicaid is federalized the Administration hopes to standardize services, but he told the governors there are no plans to radically change any of the program's provisions. He said it is not practical to have 30 optional services under Medicaid in one state and none in another.

* * * *

The nation's medical schools fear the threatened squeeze on federal loan funds and aid for students could lead many students to drop out.

Loss of the guaranteed loan program for graduate and professional students would be devastating, according to Robert Boerner, Director of the Division of Student Programs of the Association of American Medical Colleges (AAMC).

Noting that the Administration proposal would hit the entire graduate and professional academic community, Boerner exclaimed "where the hell are we going to get the leaders of the country?"

The AAMC has been warning that the already-carried-out elimination of capitation aid for medical schools (federal grants based on number of students), plus the proposed curbs on federally-aided loans could make medical schools the province of only wealthy students.

Lower standards of admission, smaller classes, and slashed overhead costs may be in the offing. Some schools might not be able to survive the crunch, some AAMC officials have said. The

number of applicants for schools is now the lowest it has been in 10 years and may drop below two applicants per place. In some areas involving state residents and public schools, the ratio is one to one.

According to Boerner the federal graduate student loan program provides 78 percent of all loan money available to medical students with 72 percent of all students participating in such loans.

Not only is the subsidized graduate loan program in jeopardy, but the fall-back loan and aid programs are in trouble. The Administration has proposed no further funding of the Exceptional Financial Need Scholarship Program which benefits two percent of medical students. The Health Professions Student Loan Program, utilized by about five percent of medical students, and the National Direct Student Loan Program, also about five percent, are recommended for cancellation.

These three loan programs account for 85 percent of all loan dollars available to the medical students, Boerner said.

The major remaining source is the Health Educations Assistance Loan program (HEAL) which involves federal guarantees of loans from private sources. These loans are made at roughly the prevailing interest rates without any federal subsidy. The Administration wants to limit the fund to \$80 million, Boerner said, but medical schools alone (other health schools also participate) estimate they will need more than \$110 million in fiscal 1983 "for this, the high cost loan of last resort."

* * * *

The government has proposed new regulations for kidney dialysis designed to save \$130 million a year.

The proposals, which already have drawn fire from some patients' groups, call for prospective reimbursement of facilities and for a single rate whether dialysis is at home or at a facility. "This should encourage home dialysis where costs are lower, when the physician recommends home dialysis," said the Health and Human Services Department (HHS).

Under a proposed new methodology for computing rates, average reimbursement would be \$132 per treatment for hospital-based facilities and \$128 per treatment for independent facilities.

"By basing the rate on median costs experienced

by all facilities, HHS will be providing a fair return to the efficient provider," said HHS.

The End-Stage Renal Disease Program (ESRD) will cost Medicare about \$1.8 billion this fiscal year at an average cost per patient of \$24,000. There are 59,000 patients covered.

About 17 percent of dialysis patients are treated at home "though home dialysis is believed to be suitable for 30 to 40 percent of patients," HHS said. Median cost is \$97 per treatment.

* * * *

Cigaret smoking is the chief avoidable cause of death in this country and the most important public health issue of our time, said C. Everett Koop, M.D., Surgeon General of the Public Health Service (PHS).

Releasing the annual PHS report on smoking and health, Dr. Koop said male smokers have double the cancer death rate of non-smoking males and that female smokers have a 30 percent higher cancer rate than non-smoking females.

About 129,000 Americans will die this year of smoking-related cancer, the report said.

The Tobacco Institute released a statement that disputed the link between smoking and cancer. "While statistical associations may raise valid questions and suggest possible leads for further research, they do not prove a cause-and-effect relationship," said Institute Chairman Horace Kornegay.

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Federally-funded clinics will have to notify parents of teenagers within 10 days after prescribing contraceptive drugs or devices, under a proposed regulation of the Health and Human Services Department (HHS).

HHS Secretary Richard Schweiker said "parents should know when a child . . . is being given a prescription drug . . . so they can be aware of any health risk their child is taking."

Supporters of the federal family planning program in Congress, led by Rep. Henry Waxman (D-CA), have protested that the new regulations will discourage youths from seeking clinic advice and that the effect violates patient confidentiality.

"The health of teenage Americans would be endangered if proposed regulations are enacted forcing clinics to notify families of young people who are seeking family planning help, Luella Klein, M.D., of the American College of Obstetricians and Gynecologists, told the House Subcom-

mittee on Health. ACOG was joined in its opposition to such regulations by the AMA and the American Academy of Pediatrics.

Dr. Klein quoted an ACOG policy which, while urging professionals working with adolescents to encourage family involvement, states that the adolescent should not be denied care and services by reason of such consideration. Dr. Klein said the proposed regulations would "deter adolescents from seeking care" and "should be avoided in the interest of the adolescents' health."

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Health care providers need to be stronger and more purposeful in moderating health care cost increases, AMA Executive Vice President James Sammons, M.D., told the American Hospital Association.

It will be no easy task to do this while at the same time assuring the quality of care, Dr. Sammons said.

The New Federalism program of the Reagan Administration will result in the smallest proportionate federal health care "pie" in history, he told the AHA's annual meeting in Washington, D.C.

One example of the private sector moving to meet the challenge is the new national effort to aid local coalitions. Unless the private sector acts, "surely we will have it done for us," the physician warned.

Spending curbs must not impede progress in medical technology and research, according to Dr. Sammons, who said that "a greater effort than ever expended before" is needed to cope with the new tides of government spending.

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A National Institutes of Health (NIH) Advisory Committee has rejected a plan to lift most federal regulations on gene transplant experiments, voting to maintain some government control over the controversial research.

Three types of experiments would require NIH prior review and approval; those that would confer drug resistance on bacteria that are not normally resistant; those that confer the ability to make deadly toxins on bacteria that cannot ordinarily do so; and those that would deliberately release any recombinant organisms into the environment.

* * * *

Stanley Nelson, Executive Vice President and

Chief Executive Officer of Detroit's Henry Ford Hospital, has been installed as the chairman of the Board of Trustees of the American Hospital Association.

Noting proposals to reduce federal health spending, Nelson called for preservation of "those preventive health measures and early treatment programs which are so vulnerable during a budget crisis."

"Abandonment (of the programs) could result in future costs to society many times current costs," he said. "These programs represent the true bargains in health and their elimination would prove to be a false economy."

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Declaring it is time to control "runaway government spending," President Reagan has said he will name a private sector task force on federal government cost control.

The "no-nonsense, results-oriented" study will begin with the Defense, Health and Human Services, and Housing and Urban Affairs Departments, the President told a news conference.

The panel, whose members are scheduled to be named soon, will bring to the problem of government spending "an outsider's view on improving management and reducing federal costs," Reagan said.

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A \$16.2 million private effort to help communities tackle rising health care costs has been announced by the Robert Wood Johnson Foundation.

The program, co-sponsored by the American Hospital Association and the Blue Cross and Blue Shield Associations, would fund such cost containment projects as new methods of reimbursing hospitals and physicians, possibly on the basis of a fixed annual amount per person treated.

Other possible projects cited by Robert Blendon, M.D., Vice President of the Foundation, were restructuring of insurance benefits, conversions and mergers of existing services or facilities, and the regionalization of high technology, high cost services.

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The government has advised that the use of aspirin to treat children with chicken pox or flu-like illness has been linked with "possible increased risk" of Reye syndrome.

The joint statement for parents and physicians

was issued by Edwardt Brandt, M.D., HHS Assistant Secretary, and the Center for Disease Control, following a review of four scientific studies by an outside advisory group.

The Health Research Group founded by Ralph Nader charged that the warning was too weak. Aspirin manufacturers disputed the studies and said the cautionary statement was "totally unjustified."

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Warning that drug abuse among young people is reaching epidemic proportions, the White House has scheduled a conference "to determine ways to curb the staggering amount of drug use by teenagers and young adults."

The one-day conference will be sponsored by ACTION, the national volunteer agency, and will be hosted by President and Mrs. Reagan.

The conference was announced following a

two-day trip by Mrs. Reagan to Florida and Texas where she visited schools and drug treatment programs. Mrs. Reagan said she wants to get more parents involved and hopes that by calling attention personally to the problem she can make a difference.

ACTION Director Tom Pauken said the "enormous assault" of drug use on youth "must be reversed at the local level by parents and teachers who can tell young people the truth about using drugs."

At the conference, corporate leaders, media officials, religious leaders and national volunteer association officials will meet with ACTION and White House staff and parents groups' representatives to "help plan national drug abuse strategies and discuss ways that the private sector can cooperate with parents to eradicate drug abuse..."



keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

I.C.U. UPDATE

Presented by the Department of Surgery, *June 1, 12:00 Noon*, Ouachita Memorial Hospital, Hot Springs. One hour Category I credit. Accrediting organization: St. Joseph's Regional Health Center, Hot Springs. No registration fee.

RENIN-ANGIOTENSIN AND HYPERTENSION

Presented by Dr. Gonzales, Ochsner Clinic, New Orleans, *June 15, 7:00 P.M.*, In-service Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

BLOOD COMPONENT THERAPY

Presented by Ernest Simon, M.D., Medical Director, United Blood Services, Scottsdale, Arizona, *July 6, 12:00 Noon*, St. Joseph's Regional Health

Center, Hot Springs. One hour Category I credit. No registration fee.

THYROID FUNCTION AND DISEASE IN THE ELDERLY

Presented by Manfred Blum, M.D., Director of Nuclear Endocrine Laboratory, New York University, New York, *July 20, 7:00 P.M.*, In-service Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

MANAGEMENT OF MENOPAUSE

Presented by Jay Schinfeld, M.D., Department of Obstetrics and Gynecology, University of Tennessee College of Health Sciences, *July 27, 6:30 P.M.*, Colonial Steakhouse, Fifth and Beech Street, Pine Bluff. One hour Category I credit. Accredited by AHEC Pine Bluff. No registration fee.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

EL DORADO — AHEC-SOUTH

Surgical Conference, each Monday, 12:45 P.M. to 1:30 P.M. AHEC-South Arkansas.
Medical Journal Club Conference, first and third Tuesday, 12:45 P.M. to 1:30 P.M. AHEC South Arkansas.
Pathology Conference, second Tuesday, 12:30 P.M. to 1:30 P.M. AHEC-South Arkansas.
Internal Medicine Conference, first and second Wednesday, 12:45 P.M. to 1:30 P.M.
Chest Conference, third Wednesday, 12:30 P.M. to 1:30 P.M., Warner Brown Hospital.
Neurology Conference, fourth Wednesday, 12:45 P.M. to 1:30 P.M.
Obstetrics-Gynecology Conference, each Thursday, 12:45 P.M. to 1:30 P.M. AHEC South Arkansas.
Pediatric Conference, third and fourth Friday, 12:45 P.M. to 1:30 P.M. AHEC-South Arkansas on fourth Friday; Union Medical Center on third Friday.

FAYETTEVILLE — AHEC-NW

Medicine Teaching Conference, each Saturday, 7:30 A.M. to 8:30 A.M., Washington Regional Medical Center.

FAYETTEVILLE — VA MEDICAL CENTER

Radiology Conference, June 3, 17 and July 1, 15, 1:00 P.M., Conference Room.
Pathology Conference, June 15 and July 20, 3:00 P.M., Conference Room.
Mortality Conference, June 10 and July 8, 3:00 P.M., Conference Room.

JONESBORO — AHEC-NORTHEAST

Interesting Case Conference, second and fourth Tuesday, 12:00 Noon, St. Bernard's Dietary Conference Room.
Craighead Memorial CME Staff Conference, second Tuesday, 7:30 P.M., St. Bernard's Dietary Conference Room.
Monthly Lecture Series, third Tuesday, 7:30 P.M., rotates each month between Walnut Ridge and Pocahontas.
Tumor Conference, fourth Wednesday, 12:00 Noon, St. Bernard's Dietary Conference Room.
Continuing Medical Lecture Series, each Friday, 12:00 Noon, St. Bernard's Dietary Conference Room.
Chest Conference, third Friday, 12:00 Noon, St. Bernard's Dietary Conference Room.

LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

Pediatric Radiology/Genetics Conference, each Monday, 12:00 Noon, 3-South Playroom.
Pediatric Grand Rounds, each Tuesday, 8:00 A.M., Physician's Conference Room.
Infectious Disease Conference, second Wednesday, 12:00 Noon, Physician's Conference Room.
Problem Case Conference, each Thursday, 12:00 Noon, Physician's Conference Room.
Primary Care Seminar, second and fourth Thursday, 5:00 P.M., Second Floor Conference Room, Pediatric Administrative Building.

LITTLE ROCK — BAPTIST MEDICAL CENTER

Cardiopulmonary Resuscitation Course, June 9 and July 14, 7:00 P.M. to 1:00 A.M., Auditorium. Six hours Category I credit.
GI Roundup, Third Wednesday, 12:00 Noon to 1:00 P.M., Conference Room #1.
Pulmonary Conference, each Tuesday, 12:00 Noon to 1:00 P.M., Auditorium.
Emergency Medicine Conference, first Wednesday, 12:30 P.M. to 1:30 P.M., Conference Room #1.
Coronary Conference, third Wednesday, 5:00 P.M. to 6:00 P.M., Conference Room #1.
Morbidity and Mortality Conference, first Thursday, 8:00 A.M. to 9:00 A.M., Conference Room #1.
Surgery Conference, each Thursday except first Thursday, 8:00 A.M. to 9:00 A.M., Conference Room #1.
Anesthesiology Conference, third Thursday, 7:00 A.M. to 8:00 A.M., Dining Room #3.
Case of the Week, June 9, 23 and July 14, 12:00 Noon to 1:00 P.M., Conference Room #1.
Anxiety/Stress Conference, May 26 and June 30, 12:00 Noon to 1:00 P.M., Conference Room #1.

LITTLE ROCK — ST. VINCENT INFIRMARY

Interhospital GI Problems Conference, first Monday, 6:00 P.M. to 7:30 P.M., Room E155, Education Wing.
Pediatric Conference, first Tuesday, 12:30 P.M. to 1:30 P.M., Room E159, Education Wing.
Interhospital Urology Grand Rounds, first Tuesday, 5:30 P.M. to 6:30 P.M., Room E159, Education Wing.
Neuropathology Conference, third Tuesday, 5:00 P.M. to 6:00 P.M., Room S-1169, Laboratory.
Peripheral Vascular Disease Conference, June 15, 6:00 P.M. to 7:00 P.M., Room E159, Education Wing.
Pulmonary Conference, first and third Thursday, 12:00 Noon to 1:00 P.M., Room E159, Education Wing.
Cardiology Conference, June 10 and 24, 12:00 Noon to 1:00 P.M., Room E155, Education Wing.

LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Internal Medicine Grand Rounds, each Thursday, 8:00 A.M. to 9:00 A.M., Auditorium, Shorey Building, UAMS.
Surgery Grand Rounds, each Saturday, 9:00 A.M. to 10:00 A.M., Education II Building, Room G/131 A&B.

TEXARKANA — AHEC SOUTHWEST

AHEC Tumor Conference, first Wednesday, 7:00 A.M., St. Michael Hospital.
AHEC Chest Conference, third Wednesday, 12:30 P.M., St. Michael Hospital.
Neuro-Radiology Conference, June 19, 23 and July 14, 28, 7:00 A.M., Wadley Hospital.



PERSONAL AND NEWS ITEMS

DR. FISER PRESIDENT

Dr. Robert Fiser of Little Rock has been elected president of the Southern Society for Pediatric Research.

DR. KOHLER ELECTED

Dr. Peter Kohler of Little Rock is chairman-elect of the Southern Society for Clinical Investigation.

DR. PRITCHARD SPEAKS

Dr. Jack Pritchard of Stuttgart spoke on Cardio-pulmonary Resuscitation at a meeting of the Stuttgart Woman's Club.

DR. HARRISON ELECTED

Dr. Jack Harrison of Texarkana has been elected to a three-year term on the Wadley Hospital Board of Directors.

DR. HUDSON HONORED

Dr. William A. Hudson was recently honored by residents of Newton County for his years of service to the area. Dr. Hudson was presented a plaque which expressed appreciation for his work and service.

DR. HIGHTOWER SPEAKS

Dr. Michael Hightower of Jonesboro spoke to the Jonesboro Chapter of the United Ostomy Association, Inc., recently on "Diagnosis and Treatment of Intestinal Tract Disease."

DR. TEETER ELECTED

Dr. Stanley Teeter of Russellville has been elected to the Board of Directors of the First National Bank of Russellville.

DR. VINZANT APPOINTED

Dr. John W. Vinzant of Fayetteville has been appointed county health officer for Washington County by the Arkansas State Board of Health.

DR. EISELE SPEAKS

Dr. Martin Eisele of Hot Springs gave a slide presentation on China during a recent meeting of the Hot Springs Rotary Club.

DR. GILLER CANDIDATE

Dr. John Giller of El Dorado is a Republican candidate for District 33 of the State Senate.

DR. FINAN SPEAKS

Dr. Mike Finan of Hot Springs spoke on "Causes of Infertility and the Diagnostic Work

Up" at a recent meeting of the Nurses Association of the American College of Obstetricians and Gynecologists.

DR. BANISTER ELECTED

Dr. Bob G. Banister of Conway was elected to the Conway School District's Board of Education.

DR. WU SPEAKS

Dr. William Wu of El Dorado presented a program on kidney failure and kidney donation at a meeting of the Evening Lions Club in El Dorado.

DR. JONES HONORED

Dr. Charles N. Jones of DeQueen was recently honored for his "33 years of loyal and dedicated service to DeQueen General Hospital." A plaque expressing appreciation was given Dr. Jones.

DR. CHERRY

Dr. James F. Cherry of Springdale recently gave a slide presentation on "The Treasures of King Tutankhamen" at a meeting of the Northwest Arkansas Archaeological Society.

DR. JONES LOCATED

Dr. David M. Jones recently began Family Practice in Yellville.

DR. McCLARD ANNOUNCES MOVE

Dr. Helen McClard of Benton has announced she will relocate to Mount Ida. Her new office will open June 1.

DR. MENENDEZ SPEAKS

Dr. Moises Menendez of El Dorado spoke on "Gastropasty" at a recent meeting of the Diploma Nurses of Arkansas in El Dorado.

DR. BIONDO CHAIRMAN

Dr. Raymond V. Biondo of North Little Rock has been named Chairman of the National Health Careers Exploring Committee of the Boy Scouts of America.

DR. SNYDER LECTURES

Dr. Victor Snyder of Little Rock lectured at Arkansas College on the concerns of Physicians for Social Responsibility.

SEMINAR PARTICIPANTS

Drs. Stephen D. Holt and Betty A. Lowe of Little Rock recently participated in a seminar on "The Practical Management of Rheumatic Disorders" co-sponsored by the Levi National

Arthritis Hospital, the Arkansas Chapter of the Arthritis Foundation and the University of Arkansas for Medical Science. Dr. Fred Robertson, medical director at Levi Arthritis Hospital, moderated a panel program during the seminar.

DR. DANIEL VISITS INDIA

Dr. W. R. Daniel of Booneville was a member of a three-week evangelical mission in the state of Andrepredesh, India, in March.

DR. DICKSON SPEAKS

Dr. Glenn Dickson of Jonesboro spoke on orthopaedic tools at a recent meeting of the Jonesboro Rotary Club.

DR. McDONALD PARTICIPATES

Dr. James E. McDonald of Fayetteville was a speaker at the annual Junior Science and Humanities Symposium at Arkansas Tech University.

DR. DUNN SPEAKS

Dr. Donald Dunn of Russellville recently spoke at a meeting of the Russellville Division of Licensed Practical Nurses.

DR. KOLB CHIEF

Dr. James M. Kolb, Jr., of Russellville is the 1982 Chief of Staff at St. Mary's Hospital in Russellville. Dr. Robert Thurlby, Russellville, is Vice Chief.



NEW MEMBERS

DR. FRANK J. PANETTIERE

Dr. Panettiere is a new member of the Benton County Medical Society. He is a native of New York City.

Dr. Panettiere is a 1956 graduate of Fordham University, Bronx, New York, and a 1960 graduate of New York Medical College, New York City. He served a rotating general internship with The Ellis Hospital, Schenectady, New York, and received six months of his Internal Medicine residency training there.

From 1962 to 1974, Dr. Panettiere was a member of the United States Air Force. He is a graduate of the Primary Course in Aerospace Medicine at the School of Aerospace Medicine, Brooks Air Force Base, Texas. He served as Chief of Aviation

Medicine and Director of Base Medical Services with the USAF Dispensary at Hancock Field, New York.

Dr. Panettiere served an Internal Medicine residency at Letterman General Hospital in San Francisco from 1964 to 1967. From 1967 to 1969, he was Chief of Internal Medicine at the Mather Air Force Base Hospital in California. He served a two-year fellowship in Hematology and Oncology at Wilford Hall United States Air Force Medical Center in San Antonio, Texas. While in Texas, Dr. Panettiere was a Clinical Assistant Professor of Physiology and Medicine at the University of Texas Medical School in San Antonio. He was stationed for three years at Elmendorf Air Force Base, Alaska, where he was Chief of Internal Medicine for two years and Chairman of the Department of Medicine for two years. He served as a Consultant in Clinical Oncology to the Alaska Native Medical Service Hospital.

Dr. Panettiere served with the Air Force Reserves from 1974 to 1976 and with the Texas Air National Guard from 1976 to 1979. He is currently a Colonel with the Arkansas Air National Guard and commander of the 189 USAF Clinic at Little Rock Air Force Base.

From 1975 to 1979, Dr. Panettiere was an Assistant Professor of Medicine in the Division of

Hematology-Oncology at the University of Texas Medical Branch in Galveston. From 1979 to 1981, he was Associate Professor of Medicine and Chief of Medical Oncology at the University of Arkansas College of Medicine. He moved to Rogers in 1981.

Dr. Panettiere is board certified in Internal Medicine and Medical Oncology. He was made National Consultant in Medical Oncology to the United States Air Force Surgeon General in 1980. Dr. Panettiere has been actively involved in numerous research activities, particularly with the Southwest Oncology Group.

Dr. Panettiere specializes in Hematology and Oncology. He is associated with Pearson & Bledsoe, P.A., at 1223 West Walnut in Rogers.

DR. ROBERT E. BURNS

Dr. Burns is a new member of the Drew County Medical Society. He is a native of El Dorado.

Dr. Burns received his pre-med education at the University of Arkansas at Monticello. He was graduated from the University of Arkansas College of Medicine in 1979. From 1979 to 1980, he was in Family Practice residency training with the University.

Dr. Burns specializes in Family Practice. He is associated with the Monticello Medical Clinic at 906 Roberts.

DR. ARTHUR J. DEAN, JR.

Dr. Dean, a new member of the Garland County Medical Society, was born in Greensboro, North Carolina.

Dr. Dean was graduated in 1960 from the United States Military Academy with a B.S. degree.

He served with the United States Army from 1960 to 1981.

Dr. Dean is a 1967 graduate of Duke University School of Medicine in Durham, North Carolina. He served his internship and residency at Walter Reed General Hospital in Washington, D. C.

During his Army career, Dr. Dean was also stationed at Moncrief Army Hospital and at Fort Bragg in North Carolina. From 1975 to 1981, Dr. Dean was a member of the staff of Baptist Hospital in Columbia, South Carolina.

Dr. Dean, a board certified Dermatologist, practices at 99 Little Pine in Hot Springs.

DR. BRUCE K. BURTON

Dr. Burton, a new member of the Hot Spring County Medical Society, was born in Wynne.

He is a 1974 graduate of Hendrix College at Conway and a 1978 graduate of the University of Arkansas College of Medicine. His Internal Medicine internship and residency were with the University Hospital from 1978 to 1981. He is board certified in Internal Medicine.

Dr. Burton specializes in Internal Medicine at 1002 Schneider in Malvern.

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The Pulaski County Medical Society has fourteen new members:

DR. JOHN T. BABER

Dr. Baber is a native of St. Louis, Missouri. He received his pre-med education at the University of Arkansas in Fayetteville. He is a 1975 graduate of the University of Arkansas College of Medicine.

Dr. Baber served his internship with Los Angeles County-University of Southern California Medical Center. He had a one-year fellowship in Diabetes at the Rancho Los Amigos Hospital in Downey, California. From 1977 to 1979, Dr. Baber served an Internal Medicine residency at the Los Angeles County-University of Southern California Medical Center. He had a Gastroenterology Fellowship with Baylor College of Medicine in Houston and a Hepatology Fellowship with the University of Texas Southwestern Medical School at Dallas. He is board certified in Internal Medicine.

Dr. Baber specializes in Gastroenterology. His office is located at 500 South University, Little Rock.

DR. THOMAS E. BREWER

Dr. Brewer, a native of Borger, Texas, was graduated from Hendrix College at Conway in 1958 with a B.A. degree. He attended the University of Texas at Austin from 1958 to 1960. In 1964, Dr. Brewer received his M.D. from the University of Texas Medical Branch, Galveston. His internship and training in Internal Medicine and Nephrology were at the University of Arkansas College of Medicine.

From 1970 to 1978, Dr. Brewer was a member of the faculty in the Department of Medicine at the University. He began private practice in 1978.

Dr. Brewer specializes in Internal Medicine and Nephrology. His office is at 5326 West Markham in Little Rock.

DR. WILLIAM W. BURNHAM

Dr. Burnham was born in Philadelphia, Pennsylvania. He is a 1973 graduate of Earlham in

Richmond, Indiana, and a 1977 graduate of the Hahnemann Medical College in Philadelphia. His internship was with Ball Memorial Hospital in Muncie, Indiana. From 1979 to 1981, he was a Family Medicine resident at the University of Arkansas College of Medicine.

Dr. Burnham specializes in Family Medicine. He is associated with Riverview Hospital at 1310 Cantrell in Little Rock.

DR. JERRY L. CARTER

Dr. Carter is a native of Jonesboro. He was graduated from the University of Arkansas at Fayetteville in 1955 with a B.S. in Chemistry. He received his M.D. from the University of Arkansas College of Medicine in 1978.

From 1978 to 1981, Dr. Carter received Family Practice training at the University Hospital.

Dr. Carter specializes in Family Practice. His office is located at 12361 Hinson Road in Little Rock.

DR. S. KILLEEN DesLAURIERS

Dr. DesLauriers, a native of Little Rock, received B.S. and M.S. degrees from the University of Arkansas at Fayetteville. She is a 1977 graduate of the University of Arkansas College of Medicine. After an internship with Baptist Medical Center in Little Rock, she had a residency in Obstetrics and Gynecology at Baylor University Medical Center in Dallas.

Dr. DesLauriers specializes in Obstetrics and Gynecology. Her office is in Suite 880 of the Medical Towers Building in Little Rock.

DR. A. P. DWYER

Dr. Dwyer, a native of Melbourne, Australia, received his M.B.B.S. degree from the Faculty of Medicine University of Melbourne, Parkville, Victoria, Australia, in 1966.

Dr. Dwyer served his internship at Preston and Northcote Community Hospital and at St. Vincent's Hospital, both in Melbourne. He had residency training as follows: Fairfield Infectious Disease Hospital in Melbourne, February-July 1969; Australian Surgical Team in Bien Hoa, South Viet Nam, from July 1969 to February 1970; Basic Sciences, Royal College of Surgeons of England in London, July-December 1970; St. Helier's Hospital, Carshalton, Surrey, England, from December 1970 to August 1971; Norfolk and Norwich Hospital in England from October 1971 to January 1972; The Robert Jones and Agnes Hunt Orthopaedic Hospital in Oswestry, Eng-

land, from January 1972 to July 1973; and Queen Mary's Hospital and the Duchess of Kent Children's Orthopaedic Hospital, University of Hong Kong, from July 1973 to March 1975. From 1975 to 1976, Dr. Dwyer held a fellowship in the Orthopaedic Department of Children's Hospital Medical Center in Boston, Massachusetts.

Dr. Dwyer is an Associate Professor of Orthopaedic Surgery at the University of Arkansas College of Medicine.

DR. GENE L. FRANCE

Dr. France was born in Memphis, Tennessee. He received a B.S. from Christian Brothers' College in Memphis in 1972. He is a 1976 graduate of the University of Arkansas College of Medicine. Dr. France received his internship and Pediatric residency training at the University. He is board certified in Pediatrics.

Dr. France specializes in Allergy and Immunology. He is associated with Dr. Kelsy Caplinger at 11215 Hermitage Road in Little Rock.

DR. STANLEY L. KELLAR

Dr. Kellar, a native of Fort Knox, Kentucky, received a B.S. degree from the University of Arkansas at Little Rock in 1972. He is a 1976 graduate of the University of Arkansas College of Medicine. His internship and Internal Medicine residency were with the University Hospital.

Dr. Kellar, an Internal Medicine specialist, is associated with Crestview Family Clinic in Jacksonville. His mailing address is Post Office Box 805, Jacksonville.

DR. D. L. MOLLITT

Dr. Mollitt was born in Cincinnati, Ohio. He received a B.S. degree from St. Joseph's College in Philadelphia, Pennsylvania, in 1970. He was graduated from St. Louis University School of Medicine in Missouri in 1974.

Dr. Mollitt received training in Surgery at the Indiana University Medical Center in Indianapolis from 1974 to 1978. From 1979 to 1981, he received training in Pediatric Surgery at Babies Hospital, Columbia-Presbyterian, in New York City. He is certified in Surgery.

Dr. Mollitt is an Assistant Professor of Pediatric Surgery at the University of Arkansas College of Medicine and is associated with Arkansas Children's Hospital.

DR. ROBERT D. NELSON

Dr. Nelson was born in Engelwood, New Jersey. In 1961, he received a B.A. in Zoology from the

University of Missouri at Kansas City. He was graduated from the University of Missouri College of Medicine at Columbia in 1967. His rotating internship was with Letterman General Army Hospital in San Francisco. He had several months of training in Anesthesia with the Army and then served for one year in Viet Nam.

Dr. Nelson completed an Anesthesiology residency at Moffitt Hospital of the University of California in San Francisco. He had training in Physical Medicine and Rehabilitation at the University of Missouri School of Medicine, Charity Hospital, New Orleans, Louisiana, and the Rehabilitation Institute in New Orleans. He is board certified in Anesthesiology and has passed the first part of the written Physical Medicine board examination.

Dr. Nelson specializes in Physical Medicine and Rehabilitation. His office is located at 515 Medical Arts Building in Little Rock.

DR. JAMES E. NOLEN

Dr. Nolen, a native of Conway, is a 1972 graduate of the University of Central Arkansas in Conway and a 1978 graduate of the University of Arkansas College of Medicine. From 1978 to 1981, he received Family Practice training at the University.

Dr. Nolen is board certified in Family Practice. He is associated with the Crestview Family Clinic in Jacksonville. His mailing address is Post Office Box 805, Jacksonville.

DR. JAMES R. PHILLIPS

Dr. Phillips was born in Shawnee, Oklahoma. After receiving a B.A. degree in Biology in 1962 from Hendrix College in Conway, Dr. Phillips received his M.D. degree from the University of Arkansas College of Medicine in 1966. He served a mixed Medicine and Surgery internship, Internal Medicine residency, and a Pulmonary Fellowship at the University. From 1972 to 1975, Dr. Phillips was a Respiratory Medicine Fellow at Stanford University School of Medicine in Palo Alto, California.

Dr. Phillips was an associate Professor of Medicine at the University of Arkansas College of Medicine.

He is board certified in Internal Medicine and Pulmonary Disease. Dr. Phillips specializes in Pulmonary Disease. His office is in Suite 890 of the Medical Towers Building in Little Rock.

DR. CHARLES C. SCHOCK

Dr. Sock was born in San Bernardino, California. He is a 1958 graduate of Yale University in New Haven, Connecticut, and a 1962 graduate of Case Western Reserve University School of Medicine in Cleveland, Ohio. He served an Orthopaedic residency with the University of Michigan Affiliated Hospitals in Ann Arbor. He is board certified in Orthopaedic Surgery.

Dr. Sock is associated with the Little Rock Orthopaedic Clinic at 9500 Lile Drive in Little Rock.

DR. MICHAEL W. STANNARD

Dr. Stannard, a native of Exeter, England, was graduated from the University of London Faculty of Medicine (The London Hospital Medical School) in England in 1966. His internship was with London Hospital. He had a Pediatric residency with the Royal United Hospital in Bath, England; an Internal Medicine Residency with St. Peters Hospital in Chertsey, England; and a four-year residency in Radiology at Southampton University Hospitals in Southampton, England.

Dr. Standard was certified in 1973 in Diagnostic Radiology in the United Kingdom. He received his American Board of Diagnostic Radiology certification in 1980.

Dr. Stannard is an Assistant Professor of Radiology at the University of Arkansas College of Medicine. He is associated with Arkansas Children's Hospital, specializing in Pediatric Radiology and Ultrasound.

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DR. RICHARD F. BERRYHILL

Dr. Berryhill, a native of Searcy, is a new member of the Sebastian County Medical Society.

Dr. Berryhill received a B.S. degree from Harding College in Searcy in 1970. He was graduated from the University of Arkansas College of Medicine in 1974.

Dr. Berryhill was a member of the United States Navy from 1973 to 1981. His internship and his residency in Anesthesiology were with the Naval Regional Medical Center in San Diego, California.

Dr. Berryhill was a member of the faculty at the Naval Regional Medical Center and a Clinical Instructor at the University of California-San Diego, La Jolla.

Dr. Berryhill specializes in Anesthesiology and is board certified. His office is located at 216-A North Greenwood in Fort Smith.



OBITUARY

DR. WILLIAM L. McNAMARA

Dr. William L. McNamara was born November 28, 1898, in Vienna, South Dakota; he died March 13, 1982. He received his pre-med education at South Dakota State College. In 1921, he was graduated from the Tulane University Medical School in New Orleans, Louisiana.

Dr. McNamara practiced in Chicago, Illinois, for twenty years before moving to Russellville in 1957. He was a veteran of World Wars I and II and a Mason. He retired in 1967. Dr. McNamara had been a resident at Sparks Manor in Fort Smith for a number of years. He was a life member of the Pope County Medical Society, Arkansas Medical Society and American Medical Association, and a member of the American Society of Pathologists.

Dr. McNamara is survived by his son, William Z. McNamara, of Chicago.

DR. RUTH C. STEINKAMP

Dr. Ruth C. Steinkamp died March 22, 1982. She was born September 8, 1918, in Little Rock.

Dr. Steinkamp received B.S. and M.S. degrees from the University of Texas in Austin. From 1941 to 1945, she was a research nutritionist at the Vanderbilt University School of Medicine in Nashville, Tennessee. She was graduated from the University of Arkansas College of Medicine in 1950. Her internship was with Barnes Hospital in St. Louis, Missouri. Dr. Steinkamp served Internal Medicine and Hematology residencies at Barnes Hospital and Washington University Affiliated Hospitals in St. Louis. She was board certified in Internal Medicine. From 1952 to 1958, she was a member of the faculty at Washington University School of Medicine and had a private practice in Clayton, Missouri.

In 1958, she moved to California. During her time there, Dr. Steinkamp was a staff hematologist for Donner Laboratories in Berkeley, was a member of the California Public Health Department and was on the faculty of the University of California in Berkeley, and had a private practice in La Mesa, California.

Dr. Steinkamp returned to Arkansas in 1971 and joined the University of Arkansas College of Medicine as an Assistant Professor of Medicine.

She directed the State Health Department's Bureau of Cancer and Special Services and instituted a program of clinical testing for cervical cancer. She had served as Director of the Arkansas Division of the American Cancer Society.

Dr. Steinkamp traveled extensively as a nutrition consultant. She served on a Sub-Committee of the National Research Council and for a year as a consultant to the World Health Organization in Geneva, Switzerland.

Dr. Steinkamp was the first woman physician to serve on the Executive Board of the Pulaski County Medical Society and to represent Pulaski County in the Arkansas Medical Society House of Delegates. At the time of her death, she was on the staff of the Veterans Administration Medical Center in North Little Rock.

Dr. Steinkamp is survived by two nephews and one niece.



THINGS



TO

COME

May 28, June 4, 11, 18, 25

Cardiovascular Institute Conference. St. John Medical Center. Auditorium, Administrative Services Building. 12:00 Noon. Category I AMA. For further information, contact: Mark Murray at 918-744-2987, 1923 South Utica, Tulsa, Oklahoma 74104.

May 25, June 22

Cancer Conference. St. John Medical Center. 12:00 Noon. Auditorium, Administrative Services Building. Category I AMA. For further information, contact: Mark Murray, 918-744-2987, 1923 South Utica, Tulsa, Oklahoma 74104.

June 4-6

Regional Postgraduate Meeting. Maxwell House, Nashville, Tennessee. Southern Medical Association in cooperation with Vanderbilt University School of Medicine. AMA Category I credit. For further information, contact Jeanette Stone, Registrar, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201.

June 10

Surgery M&M Conference — St. John's Cases. 5:00 P.M., Auditorium, Tulsa Medical College.

Category I AMA. For further information, contact: Mark Murray, 918-744-2987, 1923 South Utica, Tulsa, Oklahoma 74104.

June 10-11

Physicians Role in Confronting Medical Care Issues. Southern Medical Association. Orlando Hyatt, Orlando, Florida. 14 hours Category I AMA; 13.5 Prescribed hours, AAFP. For further information, contact: Jeanette Stone, Registrar, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201.

June 10-12

Annual Meeting, Arkansas Chapter, American College of Surgeons. Speaker will be Dr. John Ray from Ochsner Clinic in New Orleans. Red Apple Inn, Heber Springs. For further information, contact Dr. Charles Logan, 500 South University, Little Rock, Arkansas 72205; phone 644-4364.

June 17-18

Physicians Role in Confronting Medical Care Issues. Southern Medical Association. Williamsburg Inn, Williamsburg, Virginia. 14 hours AMA Category I; 13.5 Prescribed hours, AAFP. For further information, contact Jeanette Stone, Registrar, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201.

June 21-24

The Physicians Section of the University of Utah School on Alcoholism and Other Drug Dependencies. University of Utah Medical Center. CME Credit available. Fee: \$290. For further information, contact Dr. James R. Swenson, Post Office Box 2604, Salt Lake City, Utah 84110; phone 801-533-5799 or 801-533-7087.

June 28-30

Korean Medical Association and the Korean Medical Association of America. Lotte Hotel, Seoul Korea. There will be a special celebration of the Centennial Year of Rapprochement between the United States and the Korean Government. For further information, contact Dr. Suk S. Lee, Department of Radiology, Our Lady of Mercy Hospital, Dyer, Indiana 46311; phone 219-322-8930.

September 24-26

Regional Postgraduate Meeting. Southern Medical Association. Marriott Hotel, New Orleans, Louisiana. AMA Category I credit available. For further information, contact Jeanette Stone, Registrar, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; phone 205-323-4400.

October 4 and 5

Fifth Annual Cancer Screening and Detection Seminar on 4th. Second Annual Colposcopy Seminar on 5th. The University of Texas System Cancer Center M. D. Anderson Hospital and Tumor Institute. Houston, Texas. For further information, contact Judy Patterson, R.N., M. D. Anderson Hospital, 6723 Bertner Avenue, Room HMB-3.201, Houston, Texas 77030; phone 713-792-3427.

October 30-November 2

76th Annual Scientific Assembly. Southern Medical Association and the Medical Association of Georgia. Peachtree Plaza Hotel and Georgia World Congress Center, Atlanta. Credit available from AMA, AAFP, ACEP, and ACOG. For further information, contact Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; phone 205-323-4400.

March 5-12, 1983

Canadian-American-Medical-Dental Association. Twenty-second annual meeting at The Lodge, Vail, Colorado. For further information on the professional program, social functions or spouses participation program, contact Dr. H. Robert Allott, CAMDA secretary, at Box 116, Sault Ste. Marie, Michigan 49783.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The ECG reveals that the patient has a sinus rhythm at a rate of 70 per minute. Frequent ectopic beats preceded by premature P-waves are present. The premature P-waves are difficult to see in all leads in which an ectopic beat appears except for aVL, V₁ and V₅, but the T-waves of the preceding premature contractions are clearly distorted in the remaining leads implying the presence of P-waves to account for the distortion. The PR interval of the ectopic beats exceeds that of the sinus beats. The initial deflection of all the premature contractions is identical to that of the sinus beats. A triphasic (rSR') contour is present in V₁ and the pauses after the ectopic beats are not fully compensatory. The contour and duration of all ectopic beats are identical to those of the sinus beats except in V₁ and V₂. The widest ectopic beat is seen in V₂, but its QRS duration is less than 0.12 seconds and it has a RBBB pattern with a preceding P-wave. Thus, the ectopic beats are atrial premature contractions with ventricular aberration being present in the APC's in V₁ and V₂. This arrhythmia is generally benign, commonly being related to alcohol, tobacco, or caffeine use. Atrial premature beats may also be seen in patients taking digitalis or in disease states associated with atrial enlargement, congestive heart failure, myocardial ischemia, or hypoxia. So, based upon the information given, the best response would be E.

I N D E X
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